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The London Medical Record.

BROCA ON THE MEASUREMENT AND SIGNIFICANCE OF BRAIN TEMPERATURES.

M. BROCA, in his researches on cerebral thermometry (*Journal de Méd. et de Chirurg. Pratiques*, Art. 11, 288), obtains results which, though not always of direct practical utility, are of great clinical interest, and of which two examples cited in his lectures will indicate the importance. A woman, aged 60, hemiplegic on the right side and aphasic for several years past, fell under a tramway-car, and had both arms crushed; double amputation was followed by recovery; it was, however, only from the causal point of view of the hemiplegia that M. Broca spoke of this fact to his pupils; as this cause may be determined by cerebral thermometry. There are, indeed, cases in which the temperature of the brain and, consecutively, that of the cranial walls, is diminished, and others in which it is augmented. In order to ascertain the temperature, M. Broca makes use of the thermometric crown described in the *Journal de Médecine et de Chirurgie Pratiques*, article 10,634, and which is composed of six or eight thermometers arranged on the sides of the cranium. In the case of the woman in question, without going into details of the thermometric observation, the left side behind the frontal protuberance (at a point corresponding to the frontal convolutions) was one degree lower than the right side; at the temporal region this difference was 1.5° Cent. (2.7 Fahr.) at the posterior region of the cranial wall, it was less. The interpretation of these facts is as follows. There is a diminution of temperature, because there is a diminution in the influx of the blood, in consequence of the plugging of an artery by an embolism or a thrombus. In this case, no idea of any other lesion can be entertained, as this one is well localised; and there is re-establishment of part of the circulation by the collateral passages. Indeed, the temperature taken in the vicinity of the left frontal protuberance indicates a degree higher than that of the right side. It may, therefore, be admitted that the blood, which no longer arrives by the middle cerebral, a fact which manifests itself by a local diminution of temperature, is partially brought back by the anterior cerebral, and it is the increase of circulation in this artery which produces an excess of temperature in the region it occupies. Whenever, in fact, the phenomena of circulatory repair are produced, insufficient it is true, but manifesting themselves by a rise in temperature, it may be taken as certain that there is obstruction in a neighbouring artery. This fact is not peculiar to the cerebral circulation, and M. Broca has demonstrated long since that in the limbs, whenever there is ligature the temperature increases to the point at which the collateral circulation occurs.

Amongst the applications of cerebral thermometry, M. Broca has cited another no less interesting fact. It is known that in patients suffering from chronic torticollis, there generally supervenes an atrophy of the face on the side to which the head is bent, and finally a peculiar deformity of the head. This deformity is so characteristic, that M. Broca was able

to diagnose from the head of a native of New Caledonia, which had been sent to him for examination, the existence of torticollis in the subject to which it had formerly belonged. This fact was confirmed by persons who had formerly known the man. This deformity, discovered by M. Broca for the first time in 1870 in a person suffering from torticollis, has received the name of oblique ovular deformity, or plagiocephalus. The appearances are these. In the normal condition, the two lines which unite one of the frontal protuberances to the parietal protuberance on the opposite side or fronto-parietal diameter, are equal in length; in torticollis and in a certain number of other affections, this line becomes shorter on the side affected. Also, whenever the projection of the frontal protuberance diminishes, this line becomes shortened, and the opposite line is lengthened; the rest of the cranium also undergoes characteristic deformity. This diminution of the frontal projection may result from a defect of development of the brain as well as of the bones of the cranium. Thus, it is a singular fact that this deformity is found in deaf-mutes, in whom the frontal lobe is little developed on account of the absence of speech, and it is also remarkable that the same state of things is found in stammerers. Here we have a sometimes very strongly marked deformity, easily recognised at first sight, but the degree of asymmetry can be accurately ascertained by the use of the ribbon of lead. This deformity brings with it diminution of the protuberance on one side, and also a diminution of the intelligence when it is strongly marked. The application of the thermometer in torticollis has been as follows. M. Broca thinking he has to do with a defect of the development of the brain from insufficient blood-supply, in consequence of the increased flexion of the vertebral artery and the internal carotid, he supposes that it is a matter of insufficient blood-supply, showing itself by a diminution of the temperature. Experience has shown this conclusion to be correct, and in several patients the difference has been found to be from five to eight-tenths of a degree to the advantage of the unflexed side. Torticollis therefore has the power of causing other things besides lesions in form; it may have a large influence on the development of the brain, and, as the deformity of the face diminishes considerably after straightening, the same improvement may be produced in the brain; early intervention by surgical operation is therefore indicated; this may likewise be done under different conditions. In a child shown to M. Broca's class, section of the sterno-mastoid had been performed at the age of three and of five years, but the precaution of applying a straightening appliance had been omitted, and the deviation reproduced itself. Fearing to fall upon cicatricial tissue whilst making his section at the lower part of the muscle, M. Broca divided it at a centimètre below its upper insertion; it became then a myotomy and not a tenotomy, and the operation was easily performed without running the risk of wounding the vessels and nerves. It was followed by the application of an instrument during six weeks, and the torticollis has entirely disappeared; nothing remaining but a slight deformity of the face and skull. [M. Broca does not refer to the experimental researches of the regional temperature of the head by Dr. Lombard, including upwards of sixty thousand observations of temperatures by delicate thermo-electric piles, communicated to the Royal Society in 1877-78, and now re-published in a volume issued by H. K. Lewis, London, 1879.]

NORRIS ON THE DISCOVERY OF AN INVISIBLE OR THIRD CORPUSCULAR ELEMENT IN THE BLOOD.*

[ABSTRACT, WITH A CRITICAL NOTE.]

IN this paper, read before the Birmingham Philosophical Society, Dr. Norris describes a research on a 'third corpuscular element' which he believes to exist normally in the blood. He had already enunciated his views in July last at a soirée of the College of Physicians of London, and again later at a meeting of the British Medical Association at Cork. He propounds an entirely new view regarding the histology and growth of the blood-corpuscles. The paper is profusely illustrated by microphotographs, which are in some cases very successful. Dr. Norris's methods and views are as follows. He had been led by a number of observations to conclude that in normal mammalian blood there are certain colourless, invisible, biconcave discs similar in every respect to the red corpuscles, with the exception of the absence of colour: that these corpuscles exist in the blood in large numbers, and that they are in fact an earlier stage of the red corpuscles in which they have not yet obtained hæmoglobin. He further considers that they are the lymph-corpuscles which have assumed a biconcave form immediately on being introduced into the current of the blood. Dr. Norris first suspected the existence of these transparent invisible corpuscles whilst studying microphotography. As an easily obtained and convenient subject for photography, he made frequent use of preparations of fresh blood, and he observed that exceedingly faint outlines of corpuscles were represented on the photographic plate, which, when looked for in the original preparations, could not be discovered.

On further examination, he also observed that in very thin layers of fresh blood the red corpuscles were often seen to impinge upon some invisible body similar in form to themselves, which body might not unfrequently be observed to make an indentation in the plastic stroma of the red corpuscle. Dr. Norris was led by these appearances to infer that there exist in the blood certain colourless bodies, which are invisible to the eye by reason of possessing the same refractive index as the liquor sanguinis in which they are immersed. He concluded, therefore, that if the serum could be withdrawn, these bodies would be rendered visible. He designed with this object two very ingenious methods of withdrawing the serum from around the corpuscles. One process he calls by the name of 'Packing'. It consists in taking a slightly convex cover-glass, and strapping it by means of strips of adhesive plaster to a microscopic slide. When so arranged, elongated prismatic circles, 'the rings of Newton,' should be produced across the centre of the cover-glass. When these rings are seen, the glass surfaces are known to be separated by a space not greater than $\frac{1}{10000}$ of an inch. If now a drop of blood be placed at one edge of a cover-glass thus prepared, it will penetrate by the force of capillarity between the glass and the slide. The glass surfaces are in such close contact, that the corpuscles can only enter 'flatways and in single layers'. They are therefore well exposed to observation. At the spot where the rings of Newton are formed, the space is too narrow to allow the corpuscles to pass; they

therefore become 'packed', forming a close mosaic on one side of the rings, while the serum is drawn off by capillary attraction on the other side. When the blood is examined by this method, there are seen mixed with the red corpuscles certain clear biconcave bodies, colourless, but otherwise of the same size and aspect as the red corpuscles. Faithful photographs of these appearances are given in Dr. Norris's paper.

The second method of withdrawing the liquor sanguinis Dr. Norris calls that of 'Isolation'. The slide used is drilled with a hole, in which a metal eyelet is inserted; a square cover glass is strapped to the slide by one edge only, so that the opposite free edge overlaps the aperture; a small screw working in the eyelet is used to carefully raise the hinge-like cover glass. The blood is introduced at one edge, and as soon as it has by capillarity spread itself in a thin layer between the glasses, their two surfaces are gently separated by inserting the screw and raising the cover-glass. At this moment, the whole bulk of the fluid passes away towards the edge of the glass attached by the plaster, leaving a few corpuscles adhering to each of the two glass surfaces with which the blood was in contact. If this operation of raising the cover-glass be performed over a strong solution of osmic acid, the vapour immediately fixes the corpuscles in the condition in which they were, at the moment of the withdrawal of the serum. By this method, either with or without the action of the vapour of osmic acid, transparent colourless corpuscles as well as normal red corpuscles are found adhering to the glass. Sometimes, however, the cover-glass is strapped to the slide, so that the hole is situated towards the centre of the cover-glass. Dr. Norris also withdraws the serum from the corpuscles by inserting a quill through the aperture and either blowing or sucking the redundant blood to another part of the slide, leaving the adhering corpuscles free for examination. To fix the fugitive corpuscles obtained by this method, air that has been passed through a dilute solution of osmic acid and afterwards through chloride of calcium is blown through the drilled hole by means of an india-rubber ball; he further obtains the same results by isolating the blood-corpuscles after first submitting them to the action of absolute alcohol, or of a two-per-cent. solution of osmic acid, or to the influence of an ice cold temperature.

His third method of rendering the colourless corpuscles visible is to change the refractive index of the serum by the addition of a saturated solution of chloride of sodium. He recommends also that in examining the blood for these colourless corpuscles, it should, in *all* cases, immediately after being drawn, be mixed with an ammoniated solution of carmine in a saturated solution of common salt. When thus treated, the blood is found to teem with corpuscles previously invisible, and these also are seen to be of every shade of tint, from those which are absolutely colourless to others having nearly the colour of the normal red corpuscles. From all these observations Dr. Norris formally draws these conclusions.

1. 'There exist in the blood of the mammalia, in addition to the well-known red and white corpuscles, colourless transparent biconcave discs of the same size as the red ones.' 2. 'Between these two kinds of biconcave discs, others having every intermediate gradation of colour are demonstrable.'

In the second part of his paper, Dr. Norris treats of the origin of these colourless corpuscles. He considers them to be a simple transformation of the

* On the Origin and mode of Development of the Morphological Elements of Mammalian Blood. By Richard Norris, M.D., Prof. of Physiology. (Corns, Sherriff, and Rathey, Printers, Albert Street, Birmingham, 1879.)

lymph-corpuscles. He states that he has examined the lymph-corpuscles fresh from the still warm lymphatic glands and the spleen, and that he has failed to discover by any legitimate means a nucleus in these bodies; in fact, he considers them to be simply discoid non-nucleated cells, consisting of an external pellicle and semi-fluid contents. The appearance of nucleation he believes to be always due to the action of re-agents which cause the pellicle to rupture and contract, and to take up a central position within the semifluid substance, which rearranges itself round the contracted pellicle. This lymph-disc becomes biconcave by a rapid process, on its introduction into the blood-circulation, and can then be recognised (by means of the methods above described) as a young colourless corpuscle. Dr. Norris states that he has been able to observe the conversion of the discoid lymph-cell into a biconcave corpuscle; and photographs are given of lymph-cells undergoing the process of change; but he does not state by what methods of investigation he was enabled to observe this important transformation. He is entirely opposed to the current view that the white corpuscle of the blood is a nucleated cell; he considers it to be a mere 'accidental aggregate of adhesive lymph-corpuscles', the false appearance of nucleation being caused by the same *post mortem* changes already described as taking place in the lymph-cell.

[Considerable prominence has been given to the above research by public demonstrations at important professional meetings, of the photographs which illustrate it; and Dr. Wade of Birmingham stated in the *British Medical Journal*, Sept. 6th, 1879, that he had gone through the matter several times with Dr. Norris, and had been greatly impressed with what he had seen, and also that, having shown the preparations and photographs to Prof. Charcot, 'he had expressed to him his unqualified belief in the genuineness of Professor Norris's discovery'; it has also been referred to elsewhere as an actual discovery of great importance. The research is undoubtedly laborious, and the histological methods especially designed are ingenious, and the theory put forth to throw new light on what has long been one of the dark subjects of physiology is attractive. I feel, therefore, no small diffidence in expressing the opinion that the conclusions are vitiated by serious sources of fallacy arising from the methods employed.

I have had the opportunity of repeating Dr. Norris's research, and of employing the methods which he describes, having been favoured by him in August last with an account of those methods, and with the opportunity of seeing his photographs. I have had no difficulty in obtaining identical appearances with those which he has described and photographed in the pamphlet under notice, but I have perforce arrived at the conclusion that those appearances are to a considerable extent due to artificial causes, and that Dr. Norris's methods appear in a great number of instances to be open to the objection of tending to produce the appearances which he describes as normally existing. It will be observed that he adopts three methods by which the 'colourless corpuscle' is rendered visible: 1. By changing the refractive index of the serum by the addition of a saturated solution of common salt; 2. By withdrawing the serum from the corpuscles by the method which he calls 'packing'; 3. By withdrawing the corpuscles from the serum by the method which he describes as that of 'isolation'.

I. As to the first, it is easily demonstrable that the

influence of a saturated solution of chloride of sodium on the blood-corpuscles in the fresh state is to cause about one-third of the number subjected to it to lose their hæmoglobin, and become transparent and colourless, thus assuming the appearance described by Dr. Norris as characteristic of the 'invisible corpuscle'. The longer the blood is left in contact with the salt, the greater the number of corpuscles that become transparent. This I have ascertained to be the fact, by a number of experiments with the instruments for counting the blood-corpuscles. This property of concentrated solution of common salt is, indeed, mentioned by Rollett in Stricker's Manual, and is well known to histologists; on the other hand, dilute solutions of certain ascertained strength are known to have the power of preserving the red corpuscles unaltered. It is to be noted that Dr. Norris recommends that, in all cases in which the blood is to be examined for these transparent corpuscles, it should be passed, immediately it is drawn, into an ammoniated solution of carmine in a saturated solution of common salt, with the object, as he states, of at one and the same time preserving and staining the colourless corpuscles. This process he recommends as preliminary to examining the blood by the methods of 'packing' and 'isolation.' It would be interesting to learn from Dr. Norris, if all the photographs in his paper were taken from specimens of blood which had first been subjected to the action of the saturated salt solution. I have found that, if the refractive index of the serum be changed by means which are conservative and not destructive of the integrity of the red corpuscles, the transparent or third corpuscle cannot be found by any of the ordinary methods of observation.

II. Regarding the method of 'packing', I may point out that the corpuscles are here subjected to an extreme degree of pressure. They are drawn by the force of capillary attraction between two glass surfaces bound firmly together, until they reach a spot which they cannot pass by reason of the close contact of the two glasses. They, therefore, become wedged in and are subjected to the action of two forces, the capillary attraction which is drawing the liquor sanguinis from around them, and the pressure above and below of the glasses between which they are tightly wedged. This pressure causes certain of the corpuscles to discharge their hæmoglobin and to become transparent. Some of the corpuscles are acted on in this way much more rapidly than others; but in course of time a great number of the corpuscles become quite colourless, and all of them as they pass towards the centre of the glass, where the pressure is greatest, become paler. I have repeatedly watched this transformation take place. Moreover, it may be observed that at the same time the serum becomes distinctly tinted on the further side of the rings of Newton, and in one instance I determined, by the aid of the micro-spectroscope, the presence of the discharged hæmoglobin in the serum.

III. The method called by Dr. Norris by the name of 'isolation' is the one least open to objection, though I think that the capillary attraction of two glass surfaces with a thin layer of fluid between them, and the amount of force necessary to overcome this attraction and raise the cover-glass, have not been sufficiently considered, nor the probable effect of violence done to the delicate structure of the red blood-corpuscles by the antagonistic forces here brought into play. Many of the corpuscles have the appearance of being ruptured, and of having lost their contents. On repeating the same experiments with

frog's blood, I found that either the corpuscles were ruptured, setting their nuclei free, or were rendered transparent by the loss of hæmoglobin; in fact, the appearances produced by isolation are identical with those effected by the well-known experiment of pressure on the cover-glass over a fresh preparation of frog's blood. It may be noticed, however, as a point in favour of this method, that the small metal eyelet prevents the glasses from being in such close apposition as might be supposed, and hence the capillary attraction is not as powerful as it would be if the glasses were in close contact. In this method also the possible effect of the sudden withdrawal of the liquor sanguinis on the more unstable of the corpuscles is a point not to be lost sight of.

Finally, regarding Dr. Norris's theory as to the alleged false appearance of nucleation in the lymph-corpuscles and the white blood-corpuscles, it may be well to refer to M. Ranvier's recent and exact observations* concerning the division of the nucleus of the living white blood-corpuscle in the Mexican axolotl. Owing to the transparency of the protoplasm of the white blood-corpuscle of this animal, the nucleus and the nucleolus are distinctly visible in the living state, and the amœboid movements and the process of fissiparous division of the nucleus can be watched step by step. Moreover, Dr. Norris's theory that the white corpuscle is merely an accidental collection of two or three non-nucleated, vesicular, colourless corpuscles, leaves unexplained the amœboid movements observed in the living state in the leucocytes both of the mammalia and of amphibia.

In anticipation apparently of the objection that his colourless corpuscles are probably corpuscles which have parted with their hæmoglobin, Dr. Norris states that he has subjected blood to the action of a $\frac{3}{4}$ per cent. solution of common salt saturated with hæmoglobin, and that, even when the blood is placed under conditions thus unfavourable to the escape of hæmoglobin, he has still found the colourless discs. He, however, does not say by which method the blood was treated when under observation. He seems to consider also that, as the corpuscles present different gradations of tint, this involves the necessary assumption that there is therefore a difference in nature among the corpuscles, and offers an insuperable objection to the view that they are corpuscles undergoing decolorisation. M. Malassez† has shown in an exhaustive memoir on this subject, that the amount of hæmoglobin per corpuscle varies in quantity according to the state of health, and other conditions. There is also reason to believe, from the unequal manner in which the red corpuscles fall under the influence of agents known to decolorise them, some immediately becoming transparent, others resisting decolorisation for a considerable time, that they possess a very variable power of resistance, depending possibly on their age and vital condition.

Having ventured thus candidly to state the objections which seemed to me to throw more than doubt on the reality of the 'third corpuscle' of Dr. Norris as a normal constituent of living blood, and on its antecedent relation to the development of the red corpuscles, I may be permitted to say that, after going with care through a series of observations on this subject, I am disposed to believe that the colourless corpuscles

which (without the addition of a saturated solution of common salt) are still undoubtedly seen when the blood is examined by the method of 'isolation', are red corpuscles that have undergone *post mortem* changes prior to taking part in the formation of the fibrine. On this subject, I hope shortly to publish some further observations.] ALICE M. HART.

DEBOVE ON HEMIANÆSTHESIA ACCOMPANIED BY HEMIPLEGIA, AND CONTRACTION: ITS CURABILITY BY THE MAGNET AND OTHER ESTHESIOGENIC AGENTS.

SINCE the beginning of Prof. Charcot's researches on the action of magnets and metals on hemianæsthesia, several cases of undoubted organic origin (cerebral hæmorrhage, alcoholism, saturnism) have been reported in which these agents have restored sensation. Dr. Debove, in a paper lately read before the Société Médicale des Hôpitaux, and published in the *Union Médicale*, 1st November 1879, describes several such cases in which motor, as well as sensory troubles, existed and in which these symptoms (paralysis, contracture, choreic movements) gave way before the magnet.

His first observation relates to a man, aged 35, who had previously suffered from epileptoid seizures, and who one day fell in an apoplectic condition, which lasted about twenty-four hours. On recovering consciousness, he was found to have lost sensation and motion on the left side of the body, to a very considerable extent. The hemianæsthesia implicated the special senses. The magnet was applied to the left arm, and left in contact for an hour. At the end of this time the sensibility was tested and found to be perfect. The paresis had also notably diminished. The next day the patient could walk, though still a little lame. Unfortunately, being of a roving disposition, he insisted on being discharged from the hospital, and was lost sight of.

This case, obscure as it is, and useless to prove anything taken singly, gains in importance when read by the light of the others. The next case is one of a female, aged 62, who had suffered several times from ulceration of the stomach, and also from several slight apoplectic attacks, due probably to thrombosis near the posterior third of the internal capsule, followed by temporary aphasia. After the last of these attacks she remained completely anæsthetic on the right side, with spasmodic flexion of the arm and extension of the leg, and choreic movements, especially in the leg. A magnet was applied, and before an hour had elapsed, the sensory troubles had disappeared, as well as the motor; but there was a slight relapse, and some weakness; jerking, and contracture reappeared. A month was allowed to elapse without any further interference, but no further change was observed. The magnet was then reapplied. At first the movements appeared to augment, with pain and spasms in the limbs. Soon afterwards, however, an intense left cephalalgia was complained of, and at the same time the motor symptoms disappeared. The headache persisted for a few days, but a month afterwards no trace of spasm or jerking could be discovered.

A female, aged 50, fell down one day, in 1864, with a sense of vertigo, losing at the same time sensation and motion on the right side. The senses of hearing and sight were also impaired on that side. The faculty of speech was lost. In 1877,

* Recherches sur les Eléments du Sang, par L. Ranvier. Bibl. hautes Etudes. Labor. d'Histologie

† Sur la Richesse en Hémoglobine des Globules Rouges du Sang, par L. Malassez.

speech and motion had partially returned, but hemianæsthesia was still present. On January 13th, gold plates were applied to the elbow, and iron to the knee, for twenty-five minutes, after which a sensitive zone of 3 or 4 centimètres, both above and below each metal, was observed. On the 14th, sensation was still present at these points, but nowhere else on the right side. A gold plate applied to the forehead restored sensation locally in fifteen minutes. A week afterwards iron plates were applied to the tongue and nose; in ten minutes, not only had taste and smell, but also general sensibility of the whole right side of the face returned. No phenomenon of transfer occurred, and the next day the whole right side of the body was discovered to be sensitive, the patient calling attention to the fact that certain choreic movements to which she was subject were considerably diminished. The patient has since suffered no trace of relapse.

The next case is of a man, aged 54, who in 1877 had suffered from intense pains in the left shoulder, extending into the head and arm, and accompanied by symptoms of paralysis and anæsthesia. The following year he was treated by Professor Fournier, who had diagnosed syphilis; but nevertheless he became worse, and left hemiplegia and hemianæsthesia developed themselves with nocturnal pains. The right leg also became paralysed. A most energetic treatment was instituted, and successfully carried out, and in August 1879, only vestiges of the symptoms just mentioned were apparent. On the 22nd September, however, the patient awoke with acute pains in the left side; and a few days afterwards he was admitted with complete left hemianæsthesia, hemiparesis, and atrophic condition of the left arm-muscles, especially of the deltoid. On October 7th a magnet was applied to the arm for one hour and eighteen minutes. There was slight return of sensation locally, which was only transient. On the 9th, the same was applied from 6.15 till 9 a.m. The sensation of the arm had returned; soon afterwards he had intense right cephalalgia, which made the removal of the magnet necessary. Another application was made at 1.30 p.m.; three hours afterwards sensation had returned to the hand, neck, and lower jaw. A magnet was applied overnight to the leg. On the 10th, at 5 a.m., sensation was present in the leg, thigh, and trunk, but not in the foot. A slight relapse had occurred in the arm and shoulder, which was corrected by a local application of fifteen minutes. He had cephalalgia. In the afternoon it was discovered that motor power was returning, and the patient could walk and feel the ground. On the 11th, a seven hours' application produced hyperæsthesia on the left side. The magnet was placed overnight in contact with the head. On the morning of the 12th general and special sensibility of the head had returned. On the 13th, the magnet was applied (for the last time) throughout the day. There was left hyperæsthesia and intense cephalalgia; the muscular power was nearly normal. On the 16th, the hyperæsthesia had disappeared, but the cephalalgia persisted for many days, so intense as to inspire fears for the patient's condition. This symptom abated, however, and there was no relapse as to sensation and motion.

The following is a case of lead-poisoning. A colour-grinder, aged 50, had suffered from his first colic in 1873. In 1875 he noticed hypacusia and amblyopia. A second attack of colic occurred in 1877; a third in December 1878. At this time he presented a com-

plete right hemianæsthesia, extending to the mucous membrane and special senses, and a right hemiparesis with diminished electrical (faradic?) contractility. The perception of cold was much retarded. Numerous applications of the magnet were made till February 1879; but they were of short duration, and after each there was a temporary suspension of the symptoms, lasting a few hours. No transfer occurred. Longer applications were then resorted to; and it was found that one of twenty-four hours restored the functions for thirty hours, when the usual relapse occurred. It was found that a daily application of one hour was sufficient to fix the effect, and in November the dynamometer showed 29 kilogrammes with the left and 33 with the right (formerly paralysed) hand. In this case no cephalalgia occurred; but the magnet produced tremors on the affected side. Two other cases are related by Dr. Vigouroux; one of cerebral syphiloma, in which the hemianæsthesia and hemiparesis were removed by repeated applications of the magnet; and one of cerebral hæmorrhage, under Professor Luys, where the same symptoms gave way before two or three applications of faradic and static electricity.

Dr. Debove tries to account for these facts by assuming that in the brain, as in the spinal cord, there are no absolutely definite paths for the transmission of sensory impressions; and that the motor symptoms present in cases of hemianæsthesia do not depend upon any actual organic lesion of the motor tracts, but are secondary to the sensory disturbance, as for instance in 'reflex' paraplegias.

The latter assumption is proved by such facts as the utter uselessness of magnets in purely motor paralysis; the constant presence of parietal symptoms in hemianæsthesia, organic or hysterical; and the transfer (when this occurs) of the paresis with the anæsthesia.

The phenomenon of transfer is one which renders the prognosis decidedly gloomy with reference to the curative influence of magnets, and similar agents. It rarely occurs in hemianæsthesia of organic origin; but is very constant in hysterical cases. Dr. Debove ventures the following hypothesis to explain it. The effect of magnetic stimulation on the anæsthetic side (A) is to open up, so to speak, a path for the impulse, through an interhemispherical commissure into its own side of the brain; and there by a phenomenon comparable to the interference of light, it suspends the perception of impulses from the sound side (B). (B) then becomes anæsthetic; but eventually the new afferent fibres from (A) become exhausted, and the primitive condition of things returns. After a rest these fibres again resume their function, and the repetition of the process gives rise to the paradoxical phenomena of the oscillations of transfer. This theory is in accordance with the fact, that in hysterical anæsthesia of both sides the magnets fail to restore sensation on either side, and explains why in organic hemianæsthesia the result is permanent; for in such cases no interhemispherical commissure is opened to the sensory impulses, which are at once conveyed to the normally perceiving hemisphere.

Whatever be the ultimate fate of this hypothesis, it may conveniently be accepted provisionally; but, in the meanwhile, confusion of theory with facts cannot be too strongly deprecated. Of the latter we have now a very respectable array, the subjects of which are no longer hysterical females, whose treacherous and omnipotent imagination forms the favourite theme

of 'expectant attention' partisans. The latter will have to produce some more cogent arguments than those they hitherto have condescended to give us. Among other things, how do they account for the fact, that only *temporary* effects are produced by magnets in the excitable victims of hysteria, whilst *permanent* results are obtained from applications to the anæsthetic side (and that side only) of the more sedate, and often apparently incurable, sufferers from organic disease? A. DE WATTEVILLE.

DUMONTPALLIER ON THE CURE OF PAIN BY ACUPUNCTURE AT A DISTANCE.*

In this note, Dr. Dumontpallier gives very briefly the result of a considerable number of experiments which he has recently been making in the wards of La Pitié hospital, on the treatment of the severe pains of neuralgia, of acute articular rheumatism, and of pleurodynia, sciatica, etc., by acupuncture, not at the painful spot, but at a corresponding spot on the opposite side of the body. These experiments had a double origin. In the first place, the experimental facts ascertained by Charcot, Dumontpallier, Westphal, Inglis and many others in hysterical and other phases of hemianæsthesia, have led to the conclusion that these phenomena of transfer of sensation from one side of the body to the other, are the consequence of a modification of the nervous centres by peripheral excitation. On the other hand, Dumontpallier, in making subcutaneous injections for the relief of severe pains, had confirmed frequently the good results obtained by Luton, Potain, and Pasquet La Brone, from the subcutaneous injection of water. It is difficult to see, in this form of subcutaneous injection, anything else than the action of a local peripheral irritation. The therapeutic use of acupuncture has been much studied by earlier writers, and Dumontpallier cites amongst Frenchmen, Professor Jules Cloquet and Dr. Dantu in 1826. A series of comparative experiments made upon persons suffering with neuralgic, rheumatic, and pleuritic pains, showed that a hypodermic injection is a complex act, consisting, first, of the irritating action of the puncture of the skin; second, of the irritating action of the fluid injection; thirdly, of the constitutional effect of any medicated fluid which may be employed. Brown-Séquard and Tholozan ascertained by experiments, published in the *Journal de Physiologie*, vol. i, page 58, and *Société de Biologie Mémoires*, 1851 (*vide* LONDON MEDICAL RECORD, October 1879, page 393), the transmission from one side of the body to the other of peripheral modifications of the temperature; lowering of the temperature of one hand being reflected by a corresponding diminution in the temperature of the opposite hand, and so on.

Dumontpallier (*Société de Biologie, Comptes rendus*, 1878) has also shown that a similar crossed effect is produced upon local sensibility by ether-vapour; and in the present clinical experiments he has undertaken to examine whether pain existing in one side of the body cannot be modified by irritation of the opposite side. The facts which he brings forward as the result of the inquiry are the following. In cases of neuralgia of various seat and nature, in

acute articular rheumatism, in cases of rheumatic or toxic myalgia, he directed the patients to point out with the finger the painful spots. That done, he sought the similar points on the opposite side of the body, and at these latter points—most frequently free from pain—he either performed hypodermic injection with simple water, or made deep pricks with thin metal pins. These spots were most often not painful, but it was not uncommon to find that 'the corresponding point' was painful to pressure, so that there existed sometimes a latent neuralgia, symmetrical with the primary neuralgia. In the great majority of cases, immediately the puncture was made on 'the corresponding point' of the sound side, the patients declared themselves relieved, and often announced the complete cessation of pain on the diseased side, and this, it must be noted, in cases of acute rheumatic arthritis. The latter example was chosen for the demonstration, because it is hardly possible in such a case to be deceived by a patient, the articulation being red, swollen, hot, and painful both to the touch and on the least movement. Immediately the little operation was over, the patients felt that the pain was lessened or had disappeared, and they were able to effect movements of flexion and extension with joints previously immovable. 'There is no more pain', a patient would commonly say, 'and if I cannot move my joint more freely, it is because it is swollen, but I do not suffer any more'. Dumontpallier considers it unnecessary to insist further on such facts; it is sufficient to enunciate them for their value to be perceived, and anyone who places himself under the same experimental conditions can ascertain the accuracy of the report and reproduce the result. As to the physiological interpretation of the facts, he asks, how can the peripheral irritation of one side of the body relieve the pain which has its seat on the opposite side in an articulation, in the muscle, or in the skin? He answers that the spinal cord is composed of nervous cords, and of a sensorimotor centre; and, after entering into the well-known details of the structure of the spinal cord, he concludes that a peripheral irritation of one side of the body, transmitted to the sensitive cells of the corresponding side, is capable by central nervous anastomoses of modifying the sensibility of the cells on the opposite side; and this results in the cessation of the primitive peripheral pain. If the relief of the peripheral pain is due to a modification of the central sensitive cells, are we not authorised to conclude that the peripheral pains have their real seat in the nervous centres? Do we not know that in certain kinds of neuralgia there exists sometimes a painful point on the spine, indicated by pressure on the spinal apophyses? Do we not know that in various forms of myelitis peripheral pains occur which may be soothed by irritation of the painful spot, which irritation can only have a therapeutic action by affecting the sensitive centre, which is the seat of the lesion? It is then probable that many peripheral pains, as well as hysterical or organic hemianæsthesia, have their seat in the nervous centre, and the crossed analgesic action determined by peripheral irritation in the above experiments appears to afford an important argument in support of this interpretation. The conclusions of this inquiry are:—1. That subcutaneous injection with a medicated fluid is a complex operation in which a part is played, of which account may sometimes be taken, by local irritation, and a part by the fluid injected. 2. The local irritation is transmitted from the periphery to the sensitive centres, and excites in

* Sur L'Analgésie Thérapeutique Locale, déterminée par l'irritation de la région similaire du côté opposé du corps; par le Dr. Dumontpallier, Médecin de La Pitié. Paris, 1879.

the centres a modification of which the consequence is the cessation or diminution of the peripheral pain. 3. The real anatomical seat of certain pains may perhaps be ganglionic nerve centres, and this assertion seems demonstrated by the cross effect of artificially excited peripheral irritation. 4. Irritation provoked *loco dolenti*, or in the neighbourhood of the painful point soothes or abolishes the pain. Further, when the irritation is excited at points symmetrical, but on the opposite side, to those which are the seat of pain, this irritation often suffices to determine the complete and durable cessation of pain.

[The reporter has had many opportunities of seeing these facts in the wards of La Pitié, and has notes of a number of cases of neuralgia, of severe pleurodynia, and acute articular rheumatism, in which severe local pains have disappeared; sometimes they were of long standing, as in sciatica, sometimes quite recent and very acute, accompanied by the usual conditions of swelling, redness and acute tenderness to the touch. The pains have been abolished, sometimes instantly, and more or less permanently, by acupuncture of corresponding parts of the body on the opposite side. These clinical facts are of much interest, and although the therapeutic method may prove to be of only limited and occasional value, its simplicity and the ease with which it is effected are manifest, and indicate it as a resource not to be despised.—A. M. H.]

CHAUVEAU ON RACIAL RESISTANCES TO INFECTIVE POISON.

THIS is an elaborate study by the well-known Lyons professor on the influence of origin or of race on the aptitude of animals of the ovine species to contract splenic disease. The following are the principal facts and conclusions, which are considered deducible from them.* Nine sheep of Algerian origin, and of pure Barbary race, or crossed with Syrian race, resisted all the inoculations of splenic disease performed on them. [The indigenous sheep and rabbits inoculated for the purpose of comparison with the same infectious substances, on the contrary, all died within a short space of time.] The inoculation matters were furnished sometimes by the fresh blood, the spleen, and the lymphatic glands, of sheep or of rabbits which had just died of *charbon*, sometimes by culture-fluids rich in spores, sometimes by pieces of spleen dried under conditions favourable to the conservation of the spores and the rods. All these substances tried upon subjects for comparison were of a most fully developed virulence of action. To proceed to the inoculation: subdermic punctures were made on the ears, with the point of a blade thoroughly impregnated with infecting matter, or else this matter was injected freely into the veins. In the latter case, the quantity of infecting agents brought into contact with the organism was always considerable—sometimes as many as 'eight milliards of bacteria.' Except in the experiment in which the injection was introduced into the jugular vein, producing the enormous quantity of eight million millions of splenic bacteria, the animals did not show any well-marked disturbance in their general condition. They continued to eat, and they ruminated like healthy animals. Those, however, which were inoculated by cutaneous punctures, pre-

sented as a local symptom a more or less appreciable tumefaction of the lymphatic glands nearest to the point of inoculation. Moreover, as a general phenomenon there was observed, especially after the first inoculation, a certain rise in the rectal temperature. In the experiment in which the infection was produced by the intravenous injection of a cubic centimètre of splenic blood, containing at least eight million millions of bacteridia, the animals showed marked discomfort, which usually began almost immediately after the injection, and lasted about twenty hours. This discomfort shewed itself by considerable depression, loss of appetite, acceleration and irregularity of the respiratory movements, an elevation of the temperature, which in one of the animals rose as high as from 40.6 to 43 degrees. It was certainly not the proliferation of the rods introduced into the blood which induced disease in the animals, for, at the moment when they appeared the most strongly affected, multiplied examinations of the blood did not display one single splenic rod. M. Chauveau proposes to develop in another memoir the reasons which induced him to think that the temporary indisposition presented by these animals should be attributed to the action of a soluble poison manufactured by the bacteridia and present, as these latter are, in the injected blood. Some reserve must, however, be made as to this explanation, for it is possible that the animal bacteridia, introduced into organisms unsuitable for their proliferation, are arrested in the capillary network of some important organs, and may there have determined, before perishing, a passing local irritation. A necropsy performed at the proper moment would have cleared this up, but this necropsy could not be made, because it was impossible to foresee the course which the indisposition of the animals in this experiment would follow. Another hiatus of little importance and of the same kind, is the omission to examine the anatomo-pathological condition of the glands next to the point of cutaneous inoculation. It would not have been without interest to know if there was any beginning of bacteridial development, which subsequently aborted. However this may be, it is none the less established that in the nine series of experiments, the Algerian sheep showed themselves absolutely refractory to the development of the disease which is engendered by the proliferation of *Bacillus anthracis*. Why is this ground so unsuitable to the culture of the splenic bacteridia? The experiments of M. Pasteur and M. Joubert on fowls, which had been cooled to a low temperature, might give rise to the suggestion that the development of the microbium was interfered with in these sheep by the elevated temperature which they attained. One of the animals subjected to cooling by a prolonged sojourn in a cold bath, did not contract splenic disease any more than the others. For the rest, the sheep attacked with splenic disease at the moment of death often present a temperature higher than 40 deg. Cent. (104 deg. Fahr.), with as many bacteridia as red blood-corpuscles in the blood, so that in sheep temperature does not seem to exercise on the development of splenic disease an influence similar to that which has been pointed out in fowls by MM. Pasteur and Joubert. The resistance of the Algerian sheep must be otherwise explained.

It appears certain that there is here something else than a purely physical obstacle to the proliferation of the microbium of splenic disease. The rebellious medium sins not only in respect to temperature. If

* *Revue Mensuelle de Médecine et de Chirurgie*, No. 11, Novembre 10, 1879.

it enjoys a veritable immunity against invasion by the splenic bacteridia, if it does not present any predisposition to the birth of the malady which this bacteridium causes, the reason must be sought in a new series of facts which promise important results in the prophylaxis of infectious diseases. This immunity from splenic disease has very important bearings. If it be a racial characteristic, it would be very important to establish the fact precisely, as much from the point of view of the special applications which may be made of the knowledge of this peculiarity as of the general scientific consequences which may be deduced from it. If this immunity be acquired, it is still more important to be aware of it, in order to arrive at the determination of the conditions which oppose the proliferation of splenic bacteridia in a sheep. The discovery of these conditions would be of great benefit. It would probably end in giving us the power of creating this immunity at will, for there is every reason to think that these conditions would be of a nature capable of experimental realisation. In this way we may arrive at the discovery of loss of predisposition to, and immunity from infectious diseases, which would have a large bearing upon the prophylaxis of infection in all animals. H.

HUGHLINGS JACKSON ON APHASIA.

IN a recent number of the journal *Brain* (Part vii, October 1879), Dr. Hughlings Jackson continues his lucid explanations of the disease called aphasia. The paper is marked by great originality of aim in the endeavours to account for three phenomena of the disorder. The first of these is an hypothesis to explain the reason why in some cases certain utterances continually recur. The second attempts to demonstrate how it is that some words are retained whilst others are lost. The third is an hypothesis which is intended to account for certain actions performed involuntarily by the patient, and refers especially to the epileptic furor.

Taking a case, first of all, in which 'yes' and 'no' are used only emotionally, and inappropriately, but in which the patient has also a third elaborate recurring utterance, apparently used appropriately, it is maintained that this third elaborate utterance is just as much a sign of dissolution (as opposed to Herbert Spencer's evolution), as are the words 'yes' and 'no', used inappropriately. The reason why the third utterance is retained, is simply because it happens to be the group of words which the patient said, or was about to say, at the moment *when he was taken ill*. A woman who was taken ill when riding on a donkey, could afterwards only utter 'gee-gee'. A clerk who became paralysed and aphasic, after making a catalogue, could only say 'list complete'. A man whose left hemisphere was injured in a brawl could only repeat 'I want protection'. A speechless woman, whose recurring utterance was 'me', 'me', 'pittymy', 'committimy', 'lor', 'deah', was saying, when she was taken ill, 'Pity me', 'come, pity me', 'Lord', 'dear'. An ostler coming round from coma, due to the kick of a horse he was grooming, began to 'hiss', as grooms do when engaged in rubbing down horses. The space of time intervening between the accident and the recovery to sensibility was a mere blank, as far as the patients' minds were concerned.

The remnant of speech which is found in such cases, indicates a condition interfering with the simple course of dissolution.

This leads us on to the second hypothesis, which attempts to demonstrate how it is that some words are retained whilst others are lost. Those who agree with the theory that speech is produced by the activity of the left cerebral hemisphere, are here introduced to a case in which the patient could only say 'Come on to me'. There was *left* hemiplegia, and thus the inference is irresistible that his speechlessness was caused by damage in the *right* half of the brain. But as he was a *left-handed* man, his case is an exception proving the rule. The important fact which is here brought out is that damage in but *one* half (right or left) can produce speechlessness; it is equally significant that damage in neither half produces wordlessness.

The question next arises, How is it that such a man has a recurring utterance which he repeats involuntarily, and cannot suppress? Dr. Hughlings Jackson believes the solution of the seeming paradox to lie in this, that destruction of function of a higher centre is a removal of *inhibition* over a lower centre ('Principle of Loss of Control', Anstie, Thompson Dickson): the lower centre, that is, the centre physiologically, not geographically, lower, becomes more easily dischargeable, or, popularly speaking, more excitable; and especially those parts of that centre which are in activity when control is removed. So to speak, these parts become autonomous, acting for themselves, just as parts of the spinal cord below a diseased point become autonomous in some cases of paraplegia. Thus the disease *causes* loss of speech; it *permits* the increased dischargeability of the right half. It is just as cutting the pneumogastric does not cause, but permits, increased frequency of cardiac beats.

Examples of temporary loss of inhibitory power, but in a minor degree, are found in the drunkard, who uses bad language, and performs outrageous acts, regardless of the presence of others. Such conditions are also prominently seen in the initial stages of general paralysis of the insane, in which boasting, stealing, and other acts, usually under the control of the patient, are disagreeably prominent, the inhibitory action of the higher centres over the lower being temporarily or permanently lost.

The third theory next presents itself for examination, that one which endeavours to account for the epileptic furor, and similar conditions of extreme loss of the inhibitory power. In this hypothesis, Dr. Hughlings Jackson follows in the steps of the late Sir Henry Holland, in demonstrating how important an element is time in the consideration of both healthy and morbid mental phenomena. Aphasic patients occasionally transpose the syllables of one word for another, both in speaking and writing. One patient said 'gippin' for pigeon. Another said, 'lamb and crobster', for crab and lobster. Such blunders occur sometimes in persons whose speech is only very slightly defective, in those who for the most part speak well. The following occurred in healthy people: 'mukes from Boodies', for 'books from Mudies'; 'get a cash chequed', for 'get a cheque cashed'. A similar thing occurs in writing, as 'Mear Dadam', for 'Dear Madam'; 'pred budding', for 'bread pudding'.

Dr. Hughlings Jackson believes that these troubles of speech are owing to hurry on the right side of the brain; the words of subject proposition, formed on the right side of the brain, come over to the left side prematurely. What is the cause of this hurry? It is most likely due to strong emotion. At the time of the onset of the illness, we may suppose strong emo-

tion would be induced by the external circumstances, or much more probably by the setting in of the illness, the patient being afraid of worse to come.

Rapidity of emotion is the great thing in the above considerations. In another way we are concerned with rapidity—with rapidity of the being taken ill, which means rapidity of destruction of nervous arrangements in the left half of the brain. In other cases of nervous disease rapidity of dissolution is evidently an important factor with regard to symptomatic conditions. The epileptic maniac is the most furious of all maniacs. Why most *furious*? The fury is the psychical side of what is physically, of course, great activity of nervous arrangements; for, as the furious maniac is insensible also, it is plain that his highest nervous arrangements are *hors de combat*.

Thus it is that Dr. Hughlings Jackson endeavours to unravel the skeins of mystery in which all nervous phenomena are enveloped. A short epitome, such as that given above, cannot but touch upon the chief points of this most interesting inquiry. Interesting as it is to all students of psychology, it becomes still more so when handled in the masterly style of our author, whose position at hospitals dealing specially with nervous disorders gives him copious illustrations for his varied and lucid hypotheses.

To those who have hitherto regarded the disease called aphasia as a bugbear, which no amount of study could make comprehensible, we would say, read Dr. Hughlings Jackson's articles in *Brain* on this subject, and the reader will be amply repaid; not only because there will be one intricate disorder made clear to him, but because the method in which the subject is treated will teach him how to put a difficult problem into language which the most unlearned can understand.

H. SUTHERLAND, M.D.

STRAUS ON ERYSIPELAS OF THE LUNG.

M. L. STRAUS, physician to the Hôpital Tenon, in a paper read before the Société des Hôpitaux (reported in *L'Union Médicale*, Oct. 1879), says: The ancients, from Hippocrates down to Van Swieten and Borsieri, attributed a very great rôle to what they called internal erysipelas, and greatly dreaded erysipelatos metastases and repercussions; while, at the commencement of the present century, the works of Bichat and of Pinel directed attention to the numerous similitudes, anatomical as well as pathological, between the mucous membranes and the external tegument. So far at least as the mucous membranes holding the relation of direct continuity with the skin were concerned, this doctrine seemed to find in these works a fresh confirmation. Such was not the case, however. Compromised by its very excesses, the doctrine of internal erysipelas found but little favour with the anatomical school, and Béhier was, as it were, the last echo of the opposition when he refused to see, even in erysipelas of the pharynx, anything else 'than an erysipelas complicated with angina, or an angina complicated with erysipelas'. The question is, however, now set at rest; and, thanks to the researches of Gubler, Lailler, Ed. Labbé, Cornil, and Lasègue, it has been solved, not absolutely according to the ancient conception of metastasis, but, in the sense of the more rational theory of propagation by continuity of tissue. Erysipelas of the nasal fossæ, of the mouth, of the pharynx, is now an accepted fact, no more to be

disputed. The existence of erysipelas of the respiratory passages is also solidly established, since the researches of Gubler and the remarkable theses of Lailler and Ed. Labbé. It must, however, be admitted that these cases are infinitely rarer than those of guttural erysipelas, and perhaps rarer still are the published cases. M. Schlumberger, in an excellent thesis, written under the inspiration of Cornil in 1872, was able to find in the whole literature of the subject only six or seven cases, one of which was recently recorded in the service of my colleague, M. Dujardin-Beaumetz. These cases, nevertheless, amply suffice to establish the indubitable existence of erysipelas of the larynx, trachea, and bronchi. Quite otherwise is it with erysipelatos pneumonia or erysipelas of the lung. The ancients, who admitted its existence without discussion and greatly feared it, did not establish its reality by any anatomical proof. Since the question of erysipelas of the respiratory passages has been restated on a new foundation, no case anatomically demonstrated, nor any decisive clinical observation, has been published. It has been my fortune to observe, and to follow from day to day, a case which I may be permitted by anticipation to designate by the name of erysipelatos pneumonia, or, more properly, erysipelas of the lung. The conditions under which this pulmonary lesion occurred in a subject affected with erysipelas of the face, and of the buccopharyngeal cavity, its course and special evolution, its anatomical and histological characters, will, I think, justify this interpretation. (Here follow the clinical details of the case and the necropsy, which are too long to reproduce.)

Let us sum up the principal features of this observation. A young man of vigorous constitution, not addicted to alcohol, and unaffected by any previous serious illness, entered the hospital on the 15th of March, for an erysipelas of the face which ran its course unmarked by any notable peculiarity. Six days later, the erysipelas being almost extinct upon the face and the patient nearly convalescent, there appeared dysphagia, with bright redness of the pharynx, uvula, tonsils and tongue (buccopharyngeal erysipelas); no hoarseness of the voice nor laryngeal symptoms. On the 23rd of March there occurred violent recrudescence of the fever, acceleration of the pulse, and slight pain in the right side without a chill; slightly marked cough. A pneumonia spread with extreme rapidity, and in less than four days it had invaded the right lung throughout from base to apex, without presenting at any point a tendency to resolution. High fever (the temperature being maintained above 40 deg. Cent. (104 deg. Fahr.) morning as well as night) of an adynamic type existed, with meteorism, epistaxis, and subicteric tint of skin. The pneumonia appeared on the 23rd of March, and on the 28th the patient was dead.

The histological examination of the lung furnishes, in my opinion, new and decisive arguments in favour of the special nature of the pneumonia to which this patient succumbed. Even microscopically the appearance of the lung, on section, presented this peculiarity, namely, that in spite of the total and massive hepatisation, the pneumonic granulations were but slightly marked, even in the upper lobe in the portion affected with red hepatisation. The seropurulent liquid, which flowed in abundance from the surface of section, examined under the microscope, contained pus globules and red blood-corpuscles, but no fibrinous mould of the terminal bronchioles and infundibula, as is observed in the

liquid obtained by scraping the section of a lung affected by acute pneumonia after methodical hardening (alcohol, picric acid, gum). Microscopical examination shewed the pulmonary alveoli completely filled by leucocytes, without any trace of fibrin. On removing with a brush the leucocytes which filled the alveoli, the latter appeared with their proper contours, and it was impossible to detect the presence of swollen multinuclear epithelial cells, as is done in catarrhal pneumonia. Even the trabeculae of alveoli and the interlobular septa (lymphatics?) are also deeply infiltrated by pus-globules. The total absence of fibrine was observed not only in the portion of lung in full grey hepatisation, but also in the portions affected with red hepatisation.

It remains for us now to discuss this observation and its real value, and to establish that we had not to do with a simple pneumonia occurring in an erysipelatous patient, but with something special; in a word, with erysipelas of the lung. Now, this pneumonia presents clinical peculiarities, and above all anatomical peculiarities, which distinguish and specialise it.

Clinically, there is in the first place the fact of the supervention of pneumonia in a subject affected with facial and guttural erysipelas, in the absence of any appreciable causative influence, imprudence or chilling; let us note, besides, the insidiousness of the attack, marked by a slight pain in the side, without chill, and lastly the extremely rapid and extensive march of the disease (the whole right lung being invaded in four days). The anatomical peculiarities are more decisive. The propagation by way of the trachea and right main bronchus is evident, and, it seems to me, sufficiently removes the objection of coincidence; no doubt the intermediate step, the erysipelas of the larynx and of the mucous membrane covering the upper rings of the trachea, is wanting. We must admit, either that the larynx was over-leaped by the erysipelatous phlegmasia, or that this latter was so slight and transient in this region as to leave no vestiges on the cadaver. The enormous extent of the solidification, its rapid and entire passage to grey hepatisation in a young, vigorous, and non-alcoholic subject, are also worthy of attention.

Lastly, histologically, the total absence of fibrin in the pneumonic exudation is a point of which importance will escape no one. Doubtless, when acute pneumonia has reached the stage of grey hepatisation, the exudation is dislodged and liquefies, and the fibrin is dissolved in part but never in totality. Here, on the other hand, he repeats, this absence of fibrine was equally observed in the points of red hepatisation. One cannot refrain from comparing the enormous infiltration of the pulmonary alveoli by leucocytes, observed in this case, with that which occurs in the derma in cutaneous erysipelas. We know, in fact, since the labours of Vulpian, of Volkmann, and Stendner, and of J. Renaut, cutaneous erysipelas is especially characterised by an abundant issue of leucocytes into the meshes of the derma, in the neighbourhood of the vessels and lymphatics. This vehement eruption of leucocytes is effected here into the pulmonary alveoli, doubtless by an analogous mechanism, and certainly under the influence of the same cause, the erysipelatous agent. In the two manifestations of the erysipelas, cutaneous and pulmonary, there were the same rapidity of effusion of white cells, the same want of plasticity. In short, the anatomical constitution of the pulmonary alveoli, as the labours of Ranvier

have made them known to us, is singularly similar to that of the areolar connective tissue; it is not astonishing, therefore, that almost similar anatomical structures should be the seat of pathological processes almost identical. For these reasons we believe we may, without temerity, establish the fact of a special, if not specific, pneumonia, an erysipelatous pneumonia, or what was more properly designated by the ancients 'erysipelas of the lung'.

TERRIER, DUPLAY, LUCAS - CHAMPION-NIÈRE, AND OTHERS, ON THE SURGICAL TREATMENT OF INTESTINAL OBSTRUCTION.

A RECENT discussion at the Society of Surgery of Paris between MM. Terrier, Duplay, Polaillon, Tillaux, L. Le Fort, Ledentu, and Trélat, turned upon the subject of intestinal occlusion and its treatment. This subject has been so recently discussed by English surgeons, that it will be a matter of interest to summarise the recent opinions of the younger school of French surgeons. M. Tillaux observed that the surgery of the abdomen is undergoing, at the present time, transformation. 'I am convinced', he said, 'that if M. Nélaton had taken part in the present movement in surgery, if he had seen the abdomen opened with the security that now belongs to this operation, he would have accepted gastro-tomy. Enterotomy' (formation of artificial anus), he added, 'is not a rational operation'. Up to this time, enterotomy has been considered as a true benefaction. It was the only admissible operation against internal strangulation. However, the idea of performing laparotomy, *i.e.*, largely opening the abdomen, and of searching for the seat of strangulation, is not new. M. Le Fort, with his well-known erudition, reports cases of Bonnet (1700), of Nuck, and Dupuytren in 1817, who did a gastrotomy, or rather a laparotomy, for intestinal strangulation on a patient in the wards of Récamier. Since then, this operation has been performed a great number of times. Adelman, in 1863, reported thirty-three operations of laparotomy, practised for various causes. There were fourteen cures, and nineteen deaths. Ashhurst, in 1874, gave more complete statistics, and classed amongst them cases of invagination. Thirteen operations gave five cures, and eight deaths. To these cases, M. Le Fort adds those of Miller, who cured a child of seven months by laparotomy; also those of Hutchinson and of Fagge. In a thesis supported before the faculty in 1872, Dr. Delaporte, a pupil of M. Boinet, affirmed that laparotomy was far from being such a dangerous operation as had been hitherto alleged, and he reported fourteen cases giving a proportion of eight cures, that is, 57 per cent. M. Bulteau has collected, in a recent *Thèse de Paris*, 92 cases of intestinal occlusion, in which laparotomy had been practised. An analysis of these 92 cases gives the following results. 1. In ninety-two operations of laparotomy, there were thirty-three cures and sixty-nine deaths, that is, 36 per cent. of cures. 2. In twenty-one operations of laparotomy in cases of invagination, there were eight cures and thirteen deaths, or 38 per cent. of cures. 3. In seventy-one operations of laparotomy in all kinds of occlusion other than invagination, there were twenty-five cures and forty-six deaths, that is, 35 per cent. of cures. These statistics have only a relative value. Those of M.

Bulteau are incontestibly in favour of laparotomy. Equally satisfactory statistics are required in the case of enterotomy and artificial anus. In six patients, Nélaton had two successes. M. Ledentu says, that in four operations he had three deaths. M. Polaillon has practised enterotomy five times on the method of Littré. All cases proved rapidly fatal, with the exception of one which lived fifteen days. In six cases, M. Tillaux had only one success, in a cancerous patient. Statistics are entirely wanting to enable us to compare the respective value of enterotomy and laparotomy. However, it seems from the interesting discussion which has just taken place in the Société de Chirurgie, that all surgeons are agreed that, in certain cases, laparotomy is to be preferred. These are the reasons which M. Le Fort gives. 'We do not possess, or at least I do not know of, statistics of operations of colotomy; but, from what I have seen of my own practice and in the practice of my masters and my colleagues, I think that cure by colotomy is exceedingly rare. I have lost all my own cases; and M. Verneuil, whose practice is more extensive than mine, tells me that he has not a single case of cure. Further, enterotomy, though it may relieve the patient in allowing evacuation by the upper end of the intestine, does nothing to cure the disease. The structure, or invagination, or the volvulus, still exists; and if the intestine is much strangulated—and if, therefore, its vitality is much compromised—one may be quite certain that peritonitis will ultimately prove fatal to the patient. Enterotomy causes the intestine to be wounded, which laparotomy avoids; and, considering the susceptibility of the visceral peritoneum, particularly the intestinal peritoneum, which is extremely vascular, to peritonitis, it being much more irritable than the parietal peritoneum, the fear of an error in diagnosis should make one hesitate to perform enterotomy; but if the surgeon has, at the moment of operation, reason to regret having made an error in diagnosis, this error is irreparable if enterotomy is performed. Laparotomy, on the other hand, permits one to recognise the error, and thereby prevents useless interference.' M. Ledentu said: 'The real advantage of laparotomy is, that if it succeeds the course of the fecal matters is re-established, whilst enterotomy exposes the patient to a persistent and most painful infirmity. If, however, after this latter operation, the intestine is reopened, how many times can one count upon this result? No one can say. To enable one to interfere at the right moment, laparotomy is a resource much more rational, and perhaps less perilous than the purgatives with which one ordinarily tries to overcome internal strangulation.' M. Lucas-Championnière went further. He said: 'The operation is excellent; we have only to discuss the right opportunity for laparotomy; we must reject the operations which penetrate the lateral walls through the muscles, as much the more complicated; and though laparotomy may present serious difficulties they are not insurmountable by the surgeon, particularly the escape of the distended intestinal loops. In reply to the question in what cases laparotomy should be employed, M. Bulteau replies as follows. 1. In all cases of acute intestinal occlusion, as soon as the ordinary medical means employed have failed, gastrotomy should be practised. The nearer gastrotomy is to the commencement of the accidents, the greater is the chance of success. 2. In chronic intestinal occlusion, sometimes gastrotomy, sometimes enterotomy and sometimes lumbar colotomy should be employed. (a) Gastrotomy

should be practised in cases of chronic intestinal invagination, when insufflations of air, injections of water, and the application of electricity have not been able to reduce the intestine. To reduce invagination, which is often difficult, the method of Hutchinson should be employed. According to him, 'the lower part of the invagination should always first be sought for, and the reduction attempted by squeezing the intestine, or by pulling at the invaginating portion rather than by seeking to directly extricate the invaginated loop.' (b) In occlusion of the large intestine, if the precise seat of the obstacle be not known, cæcal enterotomy should be performed. (c) If the examination of the patient allow one to determine that the seat of the occlusion is in the course of the sigmoid flexure, and of the rectum, Littré's operation of enterotomy should be practised in the left groin, or better still, lumbar colotomy of Amussat. (d) In all the other varieties of chronic occlusion of the intestines, Nélaton's enterotomy should be performed in the right iliac fossa. What method of laparotomy should be employed? Methods vary. M. Parisse, of Lille, makes his incision in the right iliac fossa for two reasons; first, because it is by visual examination that one has the best chance of meeting with the strangulation; secondly, because one finds in the right iliac fossa a landmark which is certain and easy of recognition—the cæcum. Other surgeons make a very large incision in the linea alba. By this method, one is not at all interfered with by intestines, even when distended, in the search for the seat of obstruction. One is struck', said M. Lucas-Championnière, 'with the facility with which the search is made. In both operations, it is the cæcum by which the surgeon may guide himself, in the sometimes difficult search for the strangulated place. If the cæcum and the large intestine be collapsed, one will be sure that the obstacle is seated in the small intestine. On the contrary, if the cæcum and a part of the large intestine be distended by gas and fecal matters, one may be sure that the obstacle is seated at some point of the large intestine. 'The surgeon may, therefore,' says M. Bulteau, 'determine the seat of the obstacle as soon as the belly is opened, without, so to speak, touching the intestinal mass.' If the cæcum and large intestine be collapsed, the surgeon should examine the right iliac fossa and the inferior extremity of the ileum, starting from the point at which this intestine opens into the cæcum; he will arrive inevitably and rapidly at the seat of the obstacle by continuing his search along the small intestine. The statistics of intestinal occlusion show in a palpable manner that, in the cases of occlusion of the small intestine, the obstacle is seated almost always in the right iliac fossa, and almost always in the lower part of the ileum. The surgeon by examining, first, the right iliac fossa has, therefore, a great chance of rapidly meeting with the obstacle which he wishes to remove. If the cæcum be distended by gas, the surgeon must then examine the ascending colon, the transverse colon, etc. It is on the large intestine, in fact, that the obstacle is seated, and his examination should be limited to that organ. The seat of the obstacle to the passage of fecal matters once found, the state of the intestine must be examined. When the intestine is only congested and appears healthy, it may be left in the abdominal cavity, after the strangulation has been removed and the wound sutured; on the other hand, if the intestine be perforated or gangrenous at the point at which the strangulation is seated, an artificial anus should be established. The success of the operation de-

pendes largely on the rigorous cleanliness observed by the surgeon. The antiseptic method should be employed in all its exactness, and the same precautions of bandaging as those for ovariectomy. M. Lucas-Championnière insists greatly on the necessity of opening the belly largely in the median line. The incision in the right iliac fossa, in fact, is too restricted to permit the surgeon to explore sufficiently the cavity of the peritoneum and to remove the obstacle to the course of the intestinal contents. The incision in the linea alba has the advantage of permitting the recognition of the obstacle, whatever be its seat. For the rest, it is well known how difficult it is to determine beforehand the precise seat of the obstruction. [See also Duplay on Enterotomy and Laparotomy, *Archives Generales*, Dec. 1879.]

PONFICK, BIZZOZERO, AND GOLGI ON THE TRANSFUSION OF BLOOD BY INJECTION INTO THE PERITONEAL CAVITY.

IN an address delivered on the 25th July before the Silesian Society 'für Vaterländische Cultur' (*Medicinisch-Chirurgische Rundschau*, page 876, 1879), Ponfick gave a very promising report of the results which he had achieved by the simple method of transfusing defibrinated blood into the peritoneal cavity. After briefly reviewing the history of ordinary methods of transfusion, their complication, and the rarely favourable results which followed, he related that in the course of researches which he had been making, for some years, with his pupil Dr. Corda, upon dogs, he had injected into their peritoneal cavity normal as well as defibrinated blood. A very remarkable difference showed itself in favour of the defibrinated blood, which not only excited very little or hardly perceptible local irritation, but also was found to have disappeared very quickly from the peritoneal cavity, and to have been absorbed into the general circulation. Encouraged by the favourable result of experiments on animals, he recently undertook this kind of transfusion in three patients in hospital. In these cases also the result was favourable in that the slight feverishness and the little tenderness of the abdomen which followed the operation, very quickly passed away.

The apparatus with which the transfusion is made is extremely simple. It consists of an India-rubber tube, to one end of which is connected a piece of glass tubing, and to the other a sharp pen-pointed cannula, which latter can be closed by a tap. After the whole of the tube is filled with defibrinated blood, the point of the cannula is pushed through the abdominal wall, the tap is opened, and the defibrinated blood is poured, to the required quantity, through into the peritoneal cavity. Such a proceeding causes no distress to the giver of the blood, and causes to the patient discomfort hardly worth naming, or indeed no pain at all. It unites, therefore, great quickness with ample precision as to the quantity of the transfused blood. Above all, it is free from danger to the heart, lungs, or brain; and, further, within the course of the first day a considerable effect may be counted on, which is greatly increased by a second transfusion. In reply to questions, Dr. Ponfick stated that more blood can be infused this way into the body than in any other. Thus, in his first case, he had transfused 250 grammes, in his second 350, in his third 220, without having reached, in his opinion, the maximum

quantity. In answer to a question from Dr. Spiegelberg, whether an injection into the peritoneal cavity is really equivalent to transfusion, or is only to be considered as a mode of nutrition due to the destruction of the blood infused, and its use as a nutritive fluid, Ponfick replied that neither in any of his patients, nor in any of the animals of research, was hæmaglobinuria observed, whereas a very limited amount of destruction of blood-corpuscles very soon shows itself in the urine.

Since the reading of Ponfick's paper, Bizzozero and Golgi have undertaken a research which they publish as an original contribution in the *Centralblatt für Medicin. Wissenschaft*, Dec. 20, No. 51, in which they fully confirm by examination of the quantity of hæmaglobin in the circulating blood, the results of Ponfick. Their conclusions are these. The blood-corpuscles injected into the peritoneal cavity do really penetrate into the circulating blood-mass; for, so soon as twenty minutes after the injection, they found in the circulating blood a considerable increase of the percentage of blood-corpuscles. The maximum of this increase they found took place on the first or second day. This increase of hæmaglobin had a direct relation to the quantity of blood injected within certain limits. The most considerable increase in hæmaglobin which they observed, did not exceed fifty-seven per cent. of the original quantity of hæmaglobin in the circulating blood. The increase of hæmaglobin caused by the injection lasted more than a week. In one animal, which they kept for twenty-seven days, there was still a slight increase of percentage of hæmaglobin to be observed. After the maximal point of increase obtained, however, at the end of the first forty-eight hours, a progressive diminution of this decrease followed, although the quantity still remained greater than before. The increase of hæmaglobin was obtained in sound animals as well as in those which had been made anæmic by bleeding. But the maximum of hæmaglobin appeared much more quickly in the latter than in the sound animals. Altogether, their researches speak strongly in favour of peritoneal transfusion of blood, since it is further noticed that in no case was the operation accompanied by any noteworthy disturbance of the health of the animal.

H.

MEDICINE.

RECENT PAPERS.

1. GARCIN, C.—On Lithiasis and Biliary Cirrhosis. (*Revue Mensuelle de Médecine et de Chirurgie*, June 1879.)
2. HENOP.—On a case of Syphilitic Disease of the Lung. (*Deutsches Archiv. für Klin. Med.*, xxiv, p. 250.)
3. DUNCAN, J. MATTHEWS.—On Retention of the Fæces. (*Med. Times and Gazette*, November 1879, p. 521.)
4. COLLINS, W. M.—On Calculi in the Cæcal Appendix. (*Lancet*, December 1879, p. 870.)
5. ROBERTS, W.—On Hysteria in Boys. (*Practitioner*, November 1879, p. 339.)
6. JOHNSON, GEORGE.—On Latent Albuminuria. (*Brit. Med. Journ.*, December 1879, p. 928.)
7. FOTHERGILL, J. M.—On the Present and Permanent Treatment of Disease. (*Practitioner*, November 1879, p. 349.)
8. LEESON, J. R.—On Ear-cough simulating Chronic Bronchitis. (*Lancet*, December 1879, p. 833.)
9. RUSSELL, JAMES.—A case of Ear-sneezing. (*British Medical Journal*, December 1879, p. 937.)

10. KOWALEWSKI.—Loss of Body-weight after Epileptic Attacks. (*Medizinskoje Obzrenje*, October 1879.)

11. SCHLOCHOW.—On a Peculiar Form of Special Disease in Workmen in Zinc Foundries. (*Deutsche Med. Wochenschrift*, 1879, Nos. 17 and 18.)

12. EDES.—On Cheyne-Stokes Respiration. (*Boston Medical Journal*, Nov. 15, 1879.)

13. ORD.—The treatment of Enteric Fever. (*St. Thomas's Hospital Reports*, vol. ix.)

1. *Garcin on Lithiasis and Biliary Cirrhosis.*—This (*Revue Mensuelle de Médecine et de Chirurgie*, June 1879) is a valuable record of three cases in which biliary calculi were associated with hepatic cirrhosis. The first of the three is headed 'Biliary fistula: gall-stones in the gall-bladder and ductus choledochus; hepatic cirrhosis; death.' The patient, a woman aged 47, was a keeper of a small public-house. The second case is one of jaundice, biliary gravel, and hepatic cirrhosis in a man, aged 34, addicted to drink; and the third, one of biliary calculi, with cirrhosis, in a woman, aged 58, without any evidence on record of alcoholic intemperance. It may be as well to say that, while the author would seem to imply that the cirrhosis was consequent upon the state of the bile-ducts, it is, at any rate, equally probable that the cirrhosis was an alcoholic cirrhosis, and the calculi in the duct or gall-bladder merely an associated condition.

2. *Henop on a Case of Syphilitic Disease of the Lung.*—(*Deutsches Archiv. f. Klin. Med.* xxiv. p. 250.)—A sailor aged 18, taken into the hospital at Altona on account of pains in the abdomen and feverish symptoms, developed in the hospital signs of secondary syphilis, which were treated with inunctions of quicksilver with success. Seven months later the patient returned to the hospital: mucous plaques were again found on the soft palate. Fever set in (temperature as high as 40.6 deg. C.), and repeated diarrhoea. Râles (partly crepitant) were heard in the lung, but never dulness. After the syphilitic symptoms had disappeared anew under the use of the iodide of potassium, they reappeared later; a left-sided pleurisy occurred, and at the end of two months the patient died. At the *post mortem* both lungs were found full of roughish white tumours of the size of a hen's egg. Near these marks, and on the inner side of them, penbrochitic thickenings were formed. Microscopical examination showed the tissue of the tumours to be that of a granulation tissue, with numerous spindle cells scattered through it, and free from giant cells. A gumma was found also in the liver.

3. *Duncan on Retention of the Faeces.*—Dr. Matthews Duncan remarks that constipation with accumulation of retained faeces often forms considerable tumours in the abdomen, and is frequently mistaken for malignant and other diseases. Another form of retention is that when little bits of faeces are found sticking to the mucous membrane of the rectum, and causing discomfort, until they are each one washed away by enemata—a task often very difficult to accomplish, or removed piecemeal by the patient's fingers. Vaginal rectocele is another source of great discomfort where it exists, requiring manual aid on each occasion of defaecation. The anal aperture may be congenitally too small, thus causing retention, or it may become too small after injudiciously managed operations for piles. Scybala may cause retention of solid faeces, allowing the fluid portions

of the alvine discharge to pass, and so, by irritation, causing constant purging, the solid portions at the same time accumulating, and often forming large tumours, simulating at times malignant disease. Colotomy may often be demanded, although faeces are passing copiously, the fluid portions escaping through the strictured parts, while the solid portions are retained and accumulated. Constipation, therefore, is not necessarily a symptom of retention of faeces, it being possible that there may be copious evacuations while retention is going on.

4. *Collins on Calculi in the Cæcal Appendix.*—In a fatal case (*Lancet*, December 1879, p. 370), occurring in a youth, aged 11, a hard, smooth, slightly oval body, resembling a small plum or cherry stone, was found after death, and as the lad had been eating cherries, it was at first believed to be a fruit stone. Dr. Collins mentioning the case to Sir W. Jenner, the latter suggested that a more careful examination might prove it to be formed of hardened faecal matter, similar to many that Sir William had previously known to be mistaken for fruit stones, and such, on section, this concretion was found to be. Dr. Wilks, in his *Pathological Anatomy*, refers to the formation of these calculi in the appendix cæci, and states that he has never found a fruit stone lodged in the appendix, although he has found smaller bodies, such as a grain of shot or a pin; and believes that the stories of the cherry or date stones are mere fables, and that they are nothing but these calculi. Sir William Jenner considers that these calculi are formed in cases of malposition of the appendix, where, instead of being directed upwards and inwards, as normally, it is, owing to its length, and the attachment of its mesentery, bent at an angle, whereby particles of excreta can more easily slip into it, and, having passed in, are prevented returning.

5. *Roberts on Hysteria in Boys.*—The cases recorded are not brought forward as novel, but as a reminder of the fact that hysteria is neither a disease of a particular organ nor of one sex. *Case 1.* A boy, aged 13, became depressed, and suffered from various undefinable ailments. At the end of a year a dry cough developed into a bleating, like a goat, which persisted day and night, except when asleep. After continuing for fifteen months, this symptom gradually subsided. Now he has grown into a strong young man. During the attack, he passed a few days in the society of an elder brother. Four months subsequently this brother had an attack of hysterical barking, lasting a fortnight. A sister, four years after her brother's recovery, began to 'bark' without interruption for three years, and then gradually recovered. *Case 2.* A lad, aged between 8 and 9, after a febrile attack, was suddenly seized with paroxysms of loud, passionate, tearless crying, with incoherent ravings of a most alarming and distressing character. At the end of a week they ceased for a few days, and then recommenced, but not so continuously. Removal from home and its associations, with the use of the interrupted current, was followed by a permanent cure at the end of six weeks. *Case 3.* A case of hysterical spasm or contraction of the left foot in a boy, aged 11, of a week's duration, was cured by moral influence; the lad was assured he would soon walk if he persevered, and tried to play with his brothers and sisters. In twenty-four hours all was well, and has continued so since. *Case 4.* This was a clumsy imitation of epilepsy in a lad, aged 8. A residence at a farmhouse, with country air and exercise, resulted in a permanent

cure. Dr. William Roberts suggests the appropriateness of calling such attacks 'hysteroid', as it would grate less unpleasantly on the ear to speak of a 'hysteroid' joint, a 'hysteroid' stomach, and 'hysteroid' manifestations in men and boys than to use the word 'hysterical' in the same connection. [At section 1,336, 1 and 3 of the *Medical Digest* reference is made to many cases of hysteria occurring in males.—*Rep.*]

6. *Johnson on Latent Albuminuria.*—Dr. George Johnson (*British Medical Journal*, Dec. 13th, 1879) observes that the urine of apparently healthy people is often found loaded, more or less, with albumen, but that in a very large proportion of such cases the albuminuria may be traced back to some probably exciting cause; and that the presence of even the smallest trace of albumen in the urine is always pathological, never physiological as it has somewhere been suggested. [Vide *British and Foreign Medico-Chirurgical Review*, April 1868, page 324; Leube, *Lancet*, vol. i, 1878, page 503.—*Rep.*] The neglect to view the presence of albumen as a pathological phenomenon and to avoid the exciting cause, may convert a temporary and an occasional into a permanent albuminuria, which, sooner or later, though it may be after many years, will result in a fatal disorganisation of the kidney. In tracing back the history, in cases of recently discovered albuminuria, we shall not unfrequently find a more or less clear history of acute nephritis, dating back months or years. This may have been consequent upon exposure to cold and wet, or following scarlatina, measles, diphtheria, erysipelas, typhus or typhoid fever, pyæmia, rheumatic fever, etc., or connected with the puerperal state. Hence follows the necessity of frequent testing of the urine, during all febrile and inflammatory diseases, until convalescence is completely established; and, if at any time albumen be discovered, of keeping the patient under observation for a prolonged period, and testing both the day and night urine, remembering that the albumen is generally twice as abundant after food and exercise as before breakfast. A frequent cause of latent albuminuria, in apparently perfect health, is the reckless exposure of boys and young men, after violent exercise, or prolonged cold bathing, a practice that Dr. Johnson feels sure causes more injury than is usually suspected. Excessive consumption of animal food and alcohol, damages both the filters and the fluid to be filtered, and hence tends to the escape of albumen from the blood through the kidneys. Alcoholic intoxication may alone be the cause of temporary albuminuria, as well as inveterate dyspepsia, in persons of strictly temperate habits. Liver-diseases, excessive smoking, mental anxiety, all tend, in a greater or lesser degree, to cause albumen to appear in the urine, due to the long-continued elimination of some products of faulty digestion through the kidneys. The main point of practice is to make diligent search of the cause of the albuminuria, and then to instruct the patient as to the means and necessity of avoiding any fresh exposure to such cause. It is true that many years may elapse before the renal disease begins to react upon the general health, still it is sure to do so in time. Dr. Johnson has met with one case that was protracted thirty years, the patient, a hardworking medical man, dying of uræmia at the age of forty-five, having had scarlatinal dropsy at the age of fifteen. Another individual, after having for seven years albuminous urine, following scarlet fever, perfectly recovered, and has remained in sound health during

the last two years, a fact very encouraging as regards perseverance in treatment.

7. *Fothergill on the Present and Permanent Treatment of Disease.*—In a paper, read before the Harveian Society, Dr. Fothergill pointed out that the treatment, which in many diseases gives immediate relief, is not always the best adapted to the interests of the patient. In the harassing cough of phthisis and chronic bronchitis, opium or morphia, very often give speedy relief, yet do harm by impairing appetite, increasing the night-sweats, and deranging the secretory organs generally. So with neuralgia, morphia hypodermically gives often immediate relief, or a dose of croton-chloral or gelseminum. Remember, however, 'pain is the prayer of the nerves for healthy blood,' and hence the necessity to attend to this point. In sciatica, Dr. Fothergill tried the hypodermic injection of morphia once, and it was the most troublesome case he ever had to deal with, due, he believed, to the treatment adopted. Dyspepsia, biliousness, and gout, are severally commented upon as to their immediate relief, and the permanent interests of the patients. Colchicum, in the latter disease, is spoken of as the curse of many gouty people, and its use is advocated only under pressing circumstances. So, too, local treatment of gouty arthritis by leeches, cold, etc., which secure speedy immunity from suffering, is often followed by permanent ill effects. So, again, in diarrhoea, chalk mixture and astringents are often ordered, when laxatives, to clean out offending matter, are the true curative agents. But, of all abnormal conditions, when the immediate treatment of disease is to be utterly subordinated to the permanent interests of the patient, that of endocarditis stands out most prominently. In this disease the growth of connective tissue in the valve-curtains, during the inflammatory action, persists sometime after the endocarditis itself has passed away; and, as we dread injury to the valves by the contraction of the neoplasms, the proper plan is to rest the mitral valve-curtains as much as possible; to secure this, perfect rest in bed is the great indication, also to diminish blood-pressure by doses of chloral-hydrate, thus limiting the growth of connective tissue; for the more this is limited, the less will be the ultimate mutilation by contraction. In the present day patients are often allowed to test their valves too soon, after attacks of endocarditis, by leaving their beds too early, and are even ordered digitalis, which is well known to increase blood-pressure, and tends, necessarily, to increase valvular mischief in such cases.

8. *Leeson on Ear-cough simulating Chronic Bronchitis.*—Mrs. W. (*Lancet*, December 1879, p. 833) had suffered for several years from obstinate chronic bronchitis, with gradually increasing deafness, so as almost to lose hearing power on one side. Latterly, the good ear became affected, and Mr. Leeson was called one day to see her on account of almost complete deafness. The ears were both syringed, and a large accumulation of inspissated cerumen removed, with the effect of instantly curing the cough, previously so violent and persistent as to be often accompanied by vomiting, and also of completely restoring her hearing.

9. *Russell on Ear-sneezing.*—A companion case to Mr. Leeson's ear-cough just reported (*British Medical Journal*, December 1879, p. 937) is the following. A man, aged 56, was seized suddenly with violent and incessant sneezing, which lasted two days and nights. At last he fell down, unconscious, from the dreadful sneezing fit, and remained so

several minutes. On recovering consciousness, he was deaf and suffered agonies from a thumping noise in the ears. Examination showed the left ear to be full of cerumen, while both tympana were acutely inflamed. Treatment directed to the ears cured the sneezing.

R. NEALE, M.D.

10. *Kowalewski on the Loss of Body-Weight after Epileptic Attacks.*—Kowalewski (*Medizinskoje Obozrenje*, October 1879), has found, by regular daily determinations of the weight of the body in epileptics, as well during their attacks as in the intervals, that—

1. In all epileptics and in all forms of epilepsy the weight of the body diminishes after each attack, in proportion to the duration of the disease and the intensity of the attack; 2. In old cases in which the attacks occur very often, and the organism has already grown accustomed to the attacks, the loss of weight after an attack is very unimportant, from one to two pounds. In recent cases, on the other hand, in which the attacks are as yet not very frequent, the loss is considerable, three to twelve pounds after each attack. 3. When several attacks occur one after another, the greatest loss is after the first attack. It is comparatively small after the subsequent ones. 4. Great loss occurs after severe attacks of epileptic convulsion (*grand mal*), as much as twelve pounds at a time; but the greatest occur after psychical epilepsy, in which sometimes as much as a quarter of the weight of the body sometimes disappears; the increment takes place shortly after the attacks, in a few days.

11. *Schlochow on a Peculiar Form of Spinal Disease in Workmen in Zinc Foundries.*—(*Deutsche Med. Wochenschr.*, 1879, Nos. 17 and 18.) The workmen in the zinc foundries of Upper Silesia suffer from obstinate catarrh and irritation of the lung, as well as intestinal canal, and, after a long time, general cachexia, due to the introduction of zinc vapours or zinc oxide into the organs of respiration and digestion. One peculiar series* of symptoms, until now undescribed, appears, however, to Schlochow especially to deserve attention. These occur in workmen who have been occupied in the foundries from ten to twelve years. At first, complaints are heard of pains in the back, sensitiveness in the soles of the feet, a feeling of burning and creeping in the lower limbs, and gradual not rapid or overwhelming pains occurring in the legs. These patients become deaf and rough-skinned, and complain of cold; the sense of touch and perception of pain disappear in particular parts of the lower half of the body, but in an irregular fashion, so that there is often excessive sensibility in the back of the foot and the shin-bone, whilst the walls of the abdomen and genital parts have lost sensibility. Reflex irritability is diminished in the skin, as well as in the tendons. There are no disorders of the functions of the bladder and rectum. Although at the beginning the muscular power remains, the gait is hasty and irregular. The patients walk with the legs far apart, and tread with the whole sole of the foot. They falter when the eyes are shut, and they go badly in the twilight, so that it is evident that a diminution of the muscular sense occurs. During movement, there occur also often muscular tremors in the muscles of the thigh and of the buttock. There is, however, no atrophy of the muscles, nor any loss of electrical excitability. It is only in advanced stages that the motor power is diminished in the upper as well as in the lower extremities. Schlochow enters elaborately into the differential diagnosis, and arrives at the conclusion that there is in these affections a focus of chronic inflam-

mation in the spinal cord; and that the symptoms depend upon this, and probably also upon the deposit of zinc in the muscle-substance. Tabes, lead-poisoning, cadmium-poisoning, rheumatic and catarrhal influences, are eliminated from the causation of this disease. There remains, therefore, only as the apparent cause the introduction of zinc into the organism. The prophylactic method is the improvement of the ventilation and means for removing the zinc vapour.

12. *Edes on Cheyne-Stokes Respiration.*—Dr. Edes read a paper at the Roxbury Medical Society on this affection (*Boston Medical Journal*, Nov. 15, 1879). The phenomenon in question consists in a rhythmical change in the vigour and depth of the respirations, somewhat as follows. Beginning with a period at which the respiration is of exaggerated intensity, sometimes even amounting to dyspnoea, the depth of the respirations becomes gradually less and less, until they are nearly, and then quite, imperceptible to ordinary observation and to auscultation. No cyanosis or indication of distress, or *besoin de respirer*, is, however, to be noticed. After a duration of some seconds, a just perceptible respiratory movement is to be seen, succeeded by a more ample one, and so on until the maximum of activity is reached, which may be either a full, ordinary respiration, or one sufficiently laboured to be termed dyspnoea. In many cases movements of various muscles, more or less voluntary, have been observed; among others, dilatation of the pupils, general movements of the body, turning over or twitching of the limbs are not uncommon, occurring at the end of the apnoea, or with the shallow respirations which first succeed it. This form of respiration should not be confounded with that due to the falling backward of the tongue, or to a paralytic condition of the glottis. It is evident that the phenomena of Cheyne-Stokes respiration are due to a lack of irritability of the nervous centres in the medulla oblongata, so that they fail to respond to their usual stimulus, namely, an excess of carbonic acid. The phenomenon has probably less value as an element in diagnosis than was at first supposed. It was thought by Stokes to be associated with fatty degeneration of the heart, but has now been seen in connection with other diseases of the heart, brain, and kidneys. The paper closed with a report of five cases of Cheyne-Stokes respiration, four of which occurred in members of the same family, namely, father, mother, and two sons.

13. *Ord on the Treatment of Enteric Fever.*—In the *St. Thomas's Hospital Reports*, vol. ix, is given a *résumé* of the treatment of seventy-one cases of enteric fever, having a death-rate of 11.1 per cent. In by far the great majority of cases, the treatment adopted had been expectant. As a rule, the following course had been adopted. The patient had been bathed (washed) on admission, and then kept perfectly quiet in bed till about the tenth day after the temperature had sunk to normal. For the most part the diet had consisted of milk, beef-tea, occasional eggs, with alcoholic stimulants when indicated by the constitutional state. The medicines ordered were either salines, effervescing or otherwise, or the mineral acids. In no case, therefore, had any treatment been adopted which would have for its object the arrest of the fever; in other words, no methods of relief were prescribed as specifics; for, although salicylate of soda and quinia were given in one or two cases, they were used for the control of hyperpyrexia, and in the same category must be placed the graduated bath. The medicines

most frequently ordered had been the dilute hydrochloric acid, effervescent citrate of potass, and preparations of ammonia. In order to reduce hyperpyrexia, the graduated bath was administered in ten cases. [On this part of the subject, see the LONDON MEDICAL RECORD, May 15th, 1879, p. 187.] As regards the treatment of diarrhoea, no astringent or other remedies were prescribed so long as the purging was not severe; but any case in which there were passed three or more loose motions *per diem* was treated with special remedies. In the treatment of urgent diarrhoea, sulphuric acid was frequently prescribed, often in conjunction with opium, or opium and its preparations were given by themselves. In children vegetable astringents were used, such as catechu, hematoxylin, etc. When the purging became severe, and a remedy was required which should act in a short space of time, enemata with opium, or morphia suppositories (half a grain) were used. Occasionally the tincture of assafoetida was added to an enema, if there was much distension of the large intestine. Hæmorrhage was mostly treated with ice-bag to the abdomen, and either morphia or opium by some of the physicians, or spirit of turpentine by others. This last remedy, by results, would appear to have been most efficacious. Ergot was given in three cases. The guide to the seat of application of the ice-bag was the situation of pain and tenderness. The ice-bag was not invariably ordered when hæmorrhage was suspected or showed itself, and when it was applied some astringent was also administered. In perforation or peritonitis, opium was mainly trusted to, and was given in large and continued doses. In one case it had a markedly beneficial effect upon hiccup, which was causing great distress. Vomiting, if it became severe, was met by ice, effervescing salines, the subnitrate of bismuth, hydrocyanic acid, and rarely liquor strychniæ. In one case, the vomiting was arrested by an addition to diet. Delirium and sleeplessness were treated with chloral in four cases. Opium was the general remedy, and occasionally bromide of potassium was prescribed, either by itself in large doses (gr. xx), or in combination with other drugs. Further, although the prime reason for ordering a graduated bath was the high temperature, the bath was nevertheless a very successful remedy in controlling delirium. Constipation was combated in the great majority of cases by enemata, either simple ones of gruel, or with castor-oil thrown in. The rule was to give one every second or third day if the bowels were very obstinate, but not so frequently if there were no discomfort. Laxatives were rarely given, and only towards the end of the fever. They consisted of castor-oil in drachm or two-drachm doses, or of preparations of senna. Quinia was given in three cases in large doses with a view to the reduction of temperature, but only with slight temporary benefit. To two of the above patients, salicylate of soda was given after the quinia had partly failed. Finally, in a fair minority of patients, no medicine was prescribed at all, the only remedy on the bed-ticket being an occasional simple enema. As regards alcohol, the diet-columns show that twenty-six patients, or over one-third, received no alcoholic stimulant whatever, or some only during convalescence. Of the remaining forty patients, thirty-three were ordered stimulants during their first week's residence, and seven only during the second week—in other words, when the fever was most severe. The quantity varied from one glass of wine to eight ounces *per diem*, and in one case eight ounces of brandy were given.

THERAPEUTICS AND PHARMACOLOGY.

RECENT PAPERS.

1. MACNAUGHTON, W. A.—Lunar Caustic in the treatment of Ophthalmia. (*Med. Times and Gazette*, December 1879, p. 635.)
2. SUTHERLAND, H.—Koumiss in Obstinate Vomiting. (*British Medical Journal*, November 1879, p. 773.)
3. MURRELL, W.—Pilocarpine and Jaborandi in Night-sweats. (*Practitioner*, December 1879.)
4. FERROUD, GARCIN, and HAMMOND.—On the Hypodermic Injection of Arsenic in Chorea. (*Lyon Medical*, June 1879; and *St. Louis Med. Record*, October 1879.)
5. SIMMONS.—Jaborandi in Cholera. (*New York Med. Record*, Sept. 1879.)
6. RODENSTEIN.—Castanea Vesca in Whooping-Cough. (*American Journal of Obstetrics*.)
7. DEEKE.—On Lactic Acid in Cystitis. (*Buffalo Medical and Surgical Journal*, 1879, and *Phil. Med. Times*.)
8. UPSHER, J. N.—On Guaiacum in Hæmaturia. (*New York Medical Record*.)
9. EMMINGHAUS.—On Amyl Nitrite in the Dyspnoea of Consumption. (*Memorab.*, November 1879.)
10. PLANAT, M.—On Picrotoxine in the Treatment of Epilepsy. (*Archives Méd. Belges*, July 1879.)
11. KOCHLER and DITTEL.—On the use of Boro-citrate of Magnesia in the Treatment of Stone and Gravel. (*Berl. Klin. Woch.*, No. 44, 1879, and *Allgemeine Wiener Med. Zeitung*, December 16, No. 50.)
12. DONITZ, W.—Preparation and Use of Albuminate of Iron. (*Berlin. Klin. Wochenschrift*, No. 36, 1879.)
13. FRIEDRICHI.—On Bromide of Potassium in the Vomiting of Pregnancy (*Deutsch Archiv für Klin. Med.*, vol. xxiv, November 1879.)
14. LEBERT.—Iodide of Potassium and Iodide of Iron in Tuberculosis.
15. HABERKÖRN.—Ethereal Oil of Mustard in Malarious Fever. (*Sitzungs-Protokoll der Kaukaz. Med. Gesellschaft*, No. 7.)
16. ILGIN.—Salicylic Acid in the Treatment of Tœnia Solium. (*Ibid.*.)
17. PINARD.—The Gingivitis of Puerperal Women. (*New York Medical Journal*, 1879.)
18. DABNEY.—Topical Uses of Ergot. (*American Journal of Medical Science*, July 1879.—ELDRIDGE—Topical Uses of Ergot. (*New York Medical Journal*, October 1879.)

1. Macnaughton on Lunar Caustic in the Treatment of Ophthalmia.—Macnaughton (*Med. Times and Gazette*, Dec. 1879, p. 635) brings the value of this old, but, he thinks, too frequently forgotten, remedy again forward in this communication. The caustic point is firmly applied over an inch or more of the previously moistened integument of the affected eye, either on the lid itself or on the brow. The stain may be removed by the use of a strong solution of iodide of potassium. [A reference to section 1827, 6 of the *Medical Digest* will show that, in 1853, Mr. Wormald was in the habit of using counter-irritation to the lids both by means of lunar caustic and of tincture of iodine, with alleged advantage in many ophthalmic diseases; a practice that, in the *Medical Times and Gazette*, December 1857, p. 653, Mr. Wilde states was originally introduced by the late Mr. Hocken.—*Rep.*]

2. Sutherland on Koumiss in Obstinate Vomiting.—Another case is recorded in the *British Medical Journal*, November 1879, p. 773, by Dr. Sutherland, in which this agent proved of inestimable value to a patient in the advanced stage of phthisis, who, previously, had vomited all kinds of food and medi-

cine. Since taking the koumiss, vomiting has ceased, still she is fast losing flesh, as she can only take a pint instead of a quart. Messrs. Chapman, the proprietors, kindly offer the koumiss to the poor at half the usual price.

3. *Murrell on Pilocarpine and Jaborandi in Night-Sweats.*—Thirty-three cases of idrosis were treated on this plan, thirty of the patients suffering from phthisis. In seventeen cases pilocarpine was given by the mouth, in doses of one-twentieth of a grain, made into pills with sugar of milk. When the sweating is purely nocturnal, a single dose at bedtime often suffices. If the sweating be very severe, three pills, during the night, may be necessary, or if the patient sleeps well, then three pills before bedtime, at intervals of half an hour between each. The improvement is gradual, and at the end of the week there is little or no inconvenience experienced from the sweating. In sixteen cases treated with jaborandi, thirteen were phthisical. One drachm of the tincture was mixed in eight ounces of water; of this a teaspoonful was given every three hours: in other cases, fifteen to twenty drops were given every four hours. The larger doses seemed preferable. The relief to the sweating was, in most cases, marked, and it was also noticed that it 'brought up the phlegm,' and eased the 'breathing', proving, indeed, a valuable expectorant. R. NEALE, M.D.

4. *Perroud, Garin, and Hammond, on the Hypodermic Injection of Arsenic in Chorea.*—Since 1875 Perroud has employed this method, and Garin reports (*Lyon Medical*, June 1879) the results in thirty-three cases of choreic children treated in hospital. Four to five drops are injected under the skin where there is least cellular tissue, and where there are few nervous filaments. The thirty-three children were all female, from four and a half up to fourteen years of age, and included old, relapsed, rheumatic, paralytic and cerebral forms of chorea. The advantages alleged are the avoidance of gastric disturbance, rapid curative effect, and very small doses administered for two or three days. No local irritation usually follows. Rapid amelioration is the rule. Injections of water or other simple fluids produce no effect on the progress of the disease. Under the influence of the arsenic, and as the chorea passes off, the weight of the body increases and the solid matters excreted by the kidney diminish. Sixteen of the persons were cured under this sole treatment, with the average of eighteen injections on alternate days. Of thirteen other cases which had been subjected to a great variety of treatment, ten were cured. These latter were obstinate cases which had undergone relapses and been treated in a great variety of ways. Dr. W. A. Hammond (*St. Louis Clinical Record*, Oct. 1879) has also adopted this mode of treatment, and describes excellent results. He states that a much greater amount may be used hypodermically without toxic symptoms than can be administered by the stomach, and that no gastric disturbance follows its use in that manner. He advises increasing the amount injected by one drop every day or every alternate day, beginning with from five to ten drops three times daily. To prevent cellulitis and cutaneous inflammation, choose a spot where the skin may be readily lifted from the subjacent tissues (a point midway between the wrist and elbow is recommended by him,) inject slowly into the cellular tissue, after having diluted the solution with two or three parts of water or glycerine, preferably the latter. He states that he has often injected five drops as an initial dose.

5. *Simmons on Jaborandi in Cholera.*—Dr. Simmons, in the *New York Med. Record*, Sept. 1879, writes from Japan, that during the present epidemic of cholera, he determined to test the virtues of jaborandi as a remedy in the disease. He found that, in the usual complete or partial suppression of urine, the drug excited the activity of the skin and salivary glands with almost equal frequency, and its administration was followed in some cases by a copious secretion of urine, with great relief to all the symptoms. Even when this fortunate result is not so fully obtained, there is, nevertheless, a less tendency to uræmic coma. When there is not too much prostration, the profuse perspiration which is induced is attended after the first few moments with a decided improvement in the pulse; the sense of oppression is relieved, and a more natural reaction ensues than that due to alcoholic stimulants. In one case, in which there was almost constant vomiting, this symptom nearly ceased after a quarter of a grain of pilocarpine had been given subcutaneously. The jaborandi has little effect in collapsed cases, and the writer thinks may precipitate the fatal termination.

6. *Rodenstein on Castanea Vesca in Whooping-Cough.*—Dr. Rodenstein of New York, in the *American Journal of Obstetrics*, reports eight cases completely cured in from ten days to four weeks by this remedy. The extract of the dry leaves in one-drachm doses every four or five hours was used.

7. *Deeke on Lactic Acid in Cystitis.*—Deeke, in the *Buffalo Medical and Surgical Journal*, 1879, quoted in the *Phil. Med. Times*, finds that a one per cent. solution of lactic acid acts antiseptically on fermenting urine, and recommends a buttermilk diet, with injections into the bladder of a $\frac{1}{2}$ to 1 per cent. solution of the acid.

8. *Upshur on Guaiacum in Hæmaturia.*—Dr. St. John N. Upshur, of Richmond, Virginia, relates in the *New York Medical Record* that he was called to see E. H., aged 29, by occupation a seamstress. She was up, and engaged with her needle. She had been previously healthy, except that about a year before she had had an attack of hæmaturia lasting for several months, resisting all treatment, and finally stopping of its own accord. The same trouble had recurred on this occasion without, so far as could be ascertained, any cause. The treatment consequently was difficult; and she took for three months various remedies—tonic, ferruginous, diuretic and astringent—with varying results, and at the end of that time was no better than in the beginning. Analysis of the urine at various times, chemically and by the microscope, failed to reveal anything save evidence of the presence of blood. Every kind of treatment was tried, with no success whatever. At last Dr. Upshur determined to try the tincture of guaiacum, for the sole reason of its reputation in the treatment of congestive dysmenorrhœa, tonsillitis, etc., and because he believed that the hæmorrhage might be kept up by a passive congestion of the kidneys. A drachm three times a day in half a tumbler of milk was ordered, and at the end of the second day the hæmaturia had entirely ceased, and did not return again for a year, when, on her own motion the patient took the tincture of guaiacum again, with the same prompt relief, and has since had no further trouble. The result obtained in the above case was subsequently confirmed by Dr. J. G. Cobell in a case of his; the hæmaturia being checked in two days, all previous treatment having failed; and in two similar cases under the management of Dr. H. H. Levy, also of Richmond.

9. *Emminghaus on the Favourable Effect of Amyl-Nitrite in the Dyspnoea of Consumption.*—(*Memorab. Russo*, 1879).—A young girl, aged 13, suffering from tuberculosis of the lungs, with cavities and considerable tracheo-laryngitis, one day suddenly after an attack of coughing experienced an enormous dyspnoea; the inspirations almost entirely stopped. A drop of amyl-nitrite was poured on cotton-wool and held before the nose. After a few seconds the continuous expiration yielded, breathing became deeper and quieter, the reflex cramps ceased, and sleep was obtained. Altogether the asphyxia lasted for nearly an hour and a half. The action of the amyl-nitrate upon the centres of respiration, and in relieving the breathing, was very rapid and favourable. One drop suffices for children, and even for grown people, as the first dose, which in adults may be repeated after a few minutes.

10. *Planat on Picrotoxine in the Treatment of Epilepsy.*—Planat (*Archives Medicales Belges*, July 1879) has repeated the experiments of Crichton Browne on the physiological and therapeutical effects of picrotoxine. He concludes (1), that picrotoxine certainly possesses anti-convulsive properties; (2), that these properties, from a therapeutic point of view, affect the greater number of convulsive disease; (3), that among these figure sympathetic epilepsy and probably simple idiopathic epilepsy, puerperal eclampsia, chorea, and diaphragmatic spasm.

11. *Koehler and Dittel on Boro-Citrate of Magnesia in the Treatment of Stone and Gravel.*—Dr. Koehler, in the *Berliner Klinische Wochenschrift*, No. 44, 1879, strongly recommends the borocitrate of magnesia, a salt obtained from the boracite or stassfurtite recently found in quantities at Stassfurt, and asserts that the solution is very effective in dissolution of stone in the bladder and kidneys, as well as in the treatment of catarrh of the bladder. He points out that Paracelsus in the sixteenth century appears to have known and used 'this substance for this purpose. He named the stone which he used for lithiasis, *ludus* or *cevillus*. Van Helmont later insisted on the value of this *ludus*, and Becker (*Boracit, Geheimmittel des Paracelsus gegen Steine*, II Aufl., Mühlhausen, 1868) recommended it in various forms of disease. The author states that for some time he has employed boro-citrate of magnesia as well in stone as in gravel of the bladder and kidney, and catarrh, and with the best results. Boro-citrate of magnesia, as prepared for him, is a white powder of sour flavour without any taste. He orders one to two heaped-up tea-spoonfuls with the addition of a drop or two of oil of citron and 120 grammes of water, and has a tea-spoonful of it taken three times a day in half a glass of water. The cases which he brings forward are, however, very far from being convincing. They are chiefly cases in which renal calculi, which gave rise to colic, passed away a short time after this medicine was administered, or diminution of large vesical calculi after several months' use of this means. Prof. Dittel, in criticising this communication (*Allgemeine Wiener Med. Zeitung*, Dec. 16th, No. 50), justly points out that renal calculi sometimes pass away without any preparation, and that writers on alkaline waters are rich in reports of such cases, and very often see very rapid results of the kind. In respect to the second class of cases reported by Koehler, of diminution of the size of stones in the bladder, it is to be noted that he states that he had left a piece of uric acid calculus in the solution of boro-citrate of

magnesia and found it broken up at the end of eight days. Dittel handed the material to Professor Ludwig and it was found that after the stone had lain for five days in the solution it was not at all changed, and moreover no uric acid could be found in the solution. Dittel undertakes to continue his experiments, and, if he finds any successful results, to report them.

12. *Donitz on the Preparation and Use of Albuminate of Iron.*—Dr. W. Donitz, of Tokio, Japan, in the *Berlin Klin. Wochenschrift*, 1879, No. 36, says that the Japanese are peculiarly liable to anaemia, induced by gastric and intestinal catarrh. In searching for a proper form of iron for administration in his numerous cases, he has hit upon the albuminate, which is made up as follows. The whites of one or two eggs are beaten up with about five ounces of water, while six drops of solution of chloride of iron of the German Pharmacopœia are dissolved in an ounce of water in another vessel. The iron solution is then added gradually to the albumen, the mixture being continuously and vigorously stirred meanwhile. At first the mixture is cloudy, but by thorough stirring it becomes almost or quite clear. The cautious addition of a few drops of hydrochloric acid clears up the solution, but this is hardly necessary if the stirring process has been well carried out. When the solution is cloudy or contains clots of albumen, it may easily be filtered. The filtered fluid is brought up to six ounces, so that a tablespoonful will contain one-half drop of the iron solution. For convenience of dispensing the albuminate of iron, it may be dried into thin scales and powdered, since it is easier to dissolve this powder in water than to prepare a fresh supply of the moist albuminate. Dr. Donitz has employed this preparation for the past two years with great satisfaction. It can be given in cases where the stomach is so weak that no other preparation of iron is tolerated. The dose is a tablespoonful thrice daily. Hypodermically, Dr. Donitz has given the preparation in doses of one-eighth of a grain or more in an ordinary syringe of solution, of which one-half was injected in one locality and the other half in another at one time. No abscesses followed.

13. *Freidreich on Bromide of Potassium in the Vomiting of Pregnancy.*—Dr. Freidreich (*Deutsches Archiv für Klin. Med.*, vol. 24, Nov. 1879) considers the action of bromide of potassium, given in doses of from one to two grammes a day, so valuable that he would be almost disposed to say that we possess in bromide of potassium a specific remedy against the obstinate vomiting of pregnancy, if it were permissible to speak of specifics in such a case.

14. *Lebert on Iodide of Potassium and Iodide of Iron in Tuberculosis.*—M. Lebert, in his newly published work on Pulmonary Phthisis, devotes a chapter to the treatment of this disease. His practice in this respect differs notably from that usually adopted. Convinced of the inflammatory nature of tuberculosis, M. Lebert makes frequent use of iodide of potassium, which he has never found injurious, but, on the contrary, very advantageous in slightly developed tuberculosis. It must not be prescribed when hectic fever, caverns, and consumption supervene; not that it is injurious, but simply ineffective. In the first phases of tubercular evolution, even after a certain number of foci have formed, it may do good service, but it must be given persistently and in doses from thirty centigrammes ($4\frac{1}{2}$ grains) to one or two grammes (15 or 30 grains) daily. It is the same with iron, and the iodide of iron, which, notwithstanding the fear in which it is held by

many physicians, is useful as soon as weakness and anæmia progress. According to M. Lebert, the best preparation is Blancard's pills, of which he gives two at first, going on to six or more in the four and twenty hours. Syrup of iodide of iron made according to the following formula is also a favourite medicine with M. Lebert:—Iodide of potassium, 4 grammes; sulphate of iron, 2 to 3 grammes; cinnamon water, 30 grammes; syrup of orange flower water or syrup of orange peel, 150 grammes. A dessert-spoonful is to be taken twice a day at first, and increased gradually to two or three table-spoonfuls in twenty-four hours. M. Lebert also recommends benzoate of iron and cod-liver oil combined, with iodide of iron in somewhat complex preparations. He often also prescribes iron when not in combination with iodine. He readily prescribes from twenty to thirty centigrammes of lactate of iron per diem, or in dyspeptic conditions he administers an effervescent powder composed as follows:—Lactate of iron, 4 grammes; bicarbonate of soda, 12 grammes; tartaric acid, 9 grammes; sugar, 4 grammes. This should be compounded and put into a wide-mouthed bottle. The patient takes it twice a day in doses of half a tea-spoonful or a tea-spoonful in a quarter of a glass of sugar-water at the moment of effervescence. Iron does not act in tuberculous maladies directly on the foci of the disease, but specially on digestion and nutrition, and helps to restore the strength. It is generally useful in tuberculosis, whether more or less advanced. It is still the best remedy in those chloro-anæmic conditions which without actually belonging to phthisis yet predispose powerfully to it.

15. *Haberkörn on Ethereal Oil of Mustard in Malarious Fever.*—Haberkörn (*Stzungs-Protokoll der Kaukas. Med. Gesellschaft*, 18 Sept., 1879, No. 7) has very successfully employed the ethereal oil of mustard, on account of its antibacterial properties, in the pernicious fevers of Moldavia. He gives two or three drops a day in a great quantity of distilled water, or better from two to four drops in a ten per cent. alcoholic solution. His results have been 'most remarkable'.

16. *Ilgin on Salicylic Acid in the Treatment of Tania Solium.*—Dr. Ilgin (*Ibid.*) has seen in six cases a rapid effect in the removal of tania solium from salicylic acid. He gives eight grains for a dose every hour, five times successively, and precedes and succeeds the treatment by a dose of one ounce of castor-oil.

17. *Pinard on the Gingivitis of Puerperal Women.*—A writer in the *New York Medical Journal*, 1879, p. 429, says that this affection usually appears after the fourth month of pregnancy, and tends to disappear naturally a month or two after parturition. The local treatment suggested by Pinard is touching the diseased parts with tincture of iodine, glycerolate of tannin, chlorate of potash, chromic acid, etc. The most efficacious local treatment, however, which always succeeds, is equal parts of tincture of cochloria and solution of chlorate of potash applied daily with lint.

18. *Dabney and Eldridge on the Topical Uses of Ergot.*—Dr. W. C. Dabney, in an article in the *American Journal of the Medical Sciences*, July 1879, calls attention to the local use of ergot in various affections. In chronic conjunctivitis, in which the vessels are enlarged and tortuous, he advises the frequent cleansing of the eye with warm water, and the instillation after each washing of a few drops of the following solution:—Ergot (solid extract), gr. x; glycerine, $\mathfrak{z}\text{i}$; water, to make $\mathfrak{z}\text{i}$.

This treatment is less applicable in cases in which there is much pain or intolerance of light. In pterygium the same solution may be used with advantage. In cases of pharyngitis, when the vessels are enlarged and tortuous and there is not much secretion, and in hypertrophy of the tonsils, the following solution should be painted on the parts twice a day:—Ergotine, gr. xv; tincture of iodine, $\mathfrak{z}\text{i}$; glycerine to make $\mathfrak{z}\text{i}$. In cases of cervical metritis, ergot and belladonna may be combined in the following proportions to form pessaries:—Ergotine (or solid extract of ergot), gr. xx; extract of belladonna, gr. ii; cocoa butter, *q. s.*, mix and make into six pessaries; one to be inserted into the vagina every night, after using the hot douche. In warm weather these remedies may be dissolved in glycerine and water, as in this formula:—Ergotine gr. iii; extract of belladonna, gr. vi; water and glycerine $\text{āā } \mathfrak{z}\text{iv}$; mix. A pledget of cotton is to be saturated with this solution, and inserted into the vagina at bed-time, after the hot douche; the cotton should be removed in the morning. Dr. S. Eldridge mentions, in the *New York Medical Journal*, October 1879, several other affections in which the local application of ergot is beneficial. He treated an obstinate case of acne rosacea, occurring on the nose of a young lady, by the use of ergotine, applied during the night upon lint; in three weeks there was much improvement, and in six months no trace of the disease was visible. In another case of the same affection, due to drinking, he injected two or three minims of the following preparation of ergotine into the substance of the skin at intervals of three days, having first softened the tissues as much as possible by several days' continuous poulticing; ergotine, gr. xv; glycerine, gr. xxx; water, $\mathfrak{z}\text{ii}$; thoroughly triturate and strain. No suppuration occurred. Thirty injections were made, and in four months the nose was almost natural in appearance. Dr. Eldridge also gives details of some cases of gonorrhœa and granular urethritis which he has treated by ergotine locally, with marked success. The remedy may be introduced into the urethra either by means of the ointment syringe or rubbed into the meshes of a cylindrical hollow lamp-wick, which is supported by a small bougie passed into its centre, this swab being allowed to remain in the urethra for about half an hour. In an old standing case of otitis media, accompanied by destruction of the membrana tympani, large granulations, and profuse discharge, ergotine was applied directly with a camel's hair pencil, after having been diluted with sufficient glycerine to make it flow easily; the result was satisfactory, the granulations having shrunk rapidly, while the discharge disappeared and the sensitiveness abated. The author also suggests that in eczema, vaginal leucorrhœa, and nasal catarrh, the topical application of ergotine should prove of value.

PATHOLOGY.

RECENT PAPERS.

1. BOLLINGER.—On the production of Artificial Tuberculosis, by the administration of the Milk of Tuberculous Cows. (*Aerztl. Intelligenz-Blatt*, No. 47, 1879.)
2. Branchial Fistule. (*Australian Medical Journal*, July.)
3. KUEHN, PETER.—The Biology of Bacteria. (*Inaugural Diss.*, 1879.)
4. ROGER.—Patency of the Intraventricular Septum. (*La France Médicale*, No. 56, 1879.)

5. WOODWARD, J. J.—On the Microscopical Character of Diarrheal Stools. (*Med. Surg. Hist. War of Rebellion*, p. 278.)

6. REGNARD.—On the Chemical Composition of Bones in the Joint-Affections of Locomotor Ataxy. (*Gaz. Hebdom.*, December 27th, 1879.)

1. *Bollinger on the Artificial Production of Tuberculosis by the Administration of the Milk of Tuberculous Cows.*—The tuberculosis of oxen always takes a polymorphous form, partly as miliary tubercle, partly as sarcoma-like tumours, mostly with inflammatory processes combined, and partly as tubercular with caseous inflammation. Bollinger (*Aerztl. Intel.-Blatt.*, No. 47, 1879) takes pigs, goats and cats for experiment. Rabbits and Guinea pigs are not fitted for the work. In the first series of experiments, three young pigs were fed for nine weeks with the milk of a cow which showed symptoms of phthisis, and in which after death cheesy pneumonic vomicae, bronchiectasis, and general tuberculosis were found. The experiment was so far without result, that the animals were healthy when killed, except that one had enlargement and caseation of the upper cervical lymph-glands. Two test animals from the same litter were found to be healthy. In a second series, the milk was obtained from a cow which was found to be affected with extensive tuberculosis of the liver, peritoneum, and glands, and cheesy nodules in the lungs. (1). Four healthy pigs of three weeks old were fed for ten weeks, and in all there was a gradual enlargement of the cervical lymph-glands. The animals were killed when from four to five months old, and in all there was an extensive general tuberculosis of the lungs, liver, spleen, and lymph-glands. In two, there were small cheesy ulcers in the ileum. (2). A young pig was fed for fourteen days on milk from the same cow. It wasted and died when three and a half months old, three weeks after the feeding had ended. The inspection showed cheesy inflammation of the colon, and miliary tuberculosis of the lung, with swelling and caseation of the bronchial glands. (3). In a third series, six pigs from the same litter and of healthy parentage were fed with the milk of this cow, two with boiled milk, and two with it in the natural state, and the remaining two served as specimens of the health of the litter. At the end of a month, the animals used for test experiments were healthy. Of those fed with the boiled milk, an inspection found one to be healthy, while the second was still living. Of the two fed with untampered-with milk, one died with caseous or scrofulous enteritis, and the second though very ill, is still alive. Some further researches with milk from the same cow upon monkeys, goats, and Guinea pigs are not yet concluded. The tubercle thus produced has all the histological character of true tubercle, and the diseased glands also. It would appear from the frequency with which the cervical glands become affected, and also those of the portal system, that the mode of infection is by the mouth and stomach. The microscopical examination and chemical analysis of the milk shows no deviation from a normal standard. The upshot of the various experiments appears to be that the milk of tuberculous cows, if administered for some time to pigs, will produce in many instances a miliary tuberculosis, but it is pointed out that, with reference to the animals taken for experiment, those from South Germany are very seldom affected with tuberculosis, while those from North Germany, and particularly those of English breed, are very frequently so. Hence

most probably hereditary and long continued breeding play some part in tuberculosis in pigs, though it is probable, since the milk of some cows is infective, that the notion of hereditary influence, both in the tuberculosis of man and in animals, is partly to be attributed to milk infection by suckling. And seeing how frequent scrofulosis and tuberculosis are amongst men, how long latent is the disease, and how insidious its course, we should also remember the possibility of infection by milk. Till now, only one such case is known to Bollinger, in the person of a child, aged 5, who probably had been fed with the unboiled milk of a highly tuberculous cow, and where the tuberculous disease can with much probability be referred to the milk food. It is urged that cows' milk should only be administered when boiled, and in the meanwhile this problem still remains for experimental solution, viz., what forms of tuberculosis in oxen impart an infective property to milk?

JAMES F. GOODHART, M.D.

2. *Branchial Fistula.*—A case of this rare malformation is recorded in the *Australian Medical Journal* for July. The patient, a boy seven years of age, presented 'a pin-hole opening in the skin, lined by a delicate pink mucous membrane, on each side of the neck; that on the left side, the larger of the two, was situated over the inner margin of the left sterno-mastoid muscle, a little below the angle of the jaw. On the right side it was lower down, being only an inch above the clavicle, in front of the sterno-mastoid, and near its inner margin. The left fistula readily admitted an ordinary probe, which passed for about two inches upwards towards the left tonsil. Some clear mucus followed the withdrawal of the probe. A smaller probe could be passed into the right fistula for about a quarter of an inch only. The ears were normal, and there was no deafness nor other defect. The other members of the family were all healthy. The mother first observed the left fistula when the child was two or three weeks old, and noticed some 'slimy water' coming from it. The right was discovered when he was teething, at which time they were both running. Two years ago, after an attack of scarlet fever, with throat-affection, both fistulae again discharged watery fluid for a few days; and since then the left had frequently discharged while the right had done so but seldom. By the use of the galvanic cautery, the fistulae were closed in about a month.

3. *Kühn on the Biology of Bacteria.*—P. Kühn (*Inaugural Dissertation*, Dorpat, 1879) having observed the various results obtained by experimenters in the employment of antiseptics when these were used against the bacteria developed in one or another nutrient fluid, determined to examine the nature and varieties of some of these bacteria, and set himself to review the subject generally. He concludes (1) that the various forms of bacteria appear to cause different kinds of decomposition in the same fluid; (2) that, in some kinds of bacteria and in some stages of development, certain fluids absolutely fail to nourish, the same fluids under other circumstances being abundantly capable of developing either other forms or the same form in other stages; (3) that various forms of bacteria which, transplanted to unfavourable media, fail to flourish, will flourish abundantly when returned to their native element; (4) that the highly refractive comma-shaped globules appear to be a stage in the development of the rod-bacteria. Naegeli's hypothesis, that the nourishing medium can influence the variety of de-

composition roused by the fungus beyond its own limits, is not supported by Kühn's observations.

4. *Roger on Patency of the Interventricular Septum.*—M. Roger's conclusions (*La France Médicale*, No. 86, 1879) on this subject are as follows. There is a malformation of the heart, in which there is no cyanosis, though a free mixture of the venous and arterial blood takes place. This malformation, which is compatible with life and even with a prolonged existence, when it is simple and without the co-existence of a stenosis, also congenital, of the pulmonary artery, is patency of the ventricular septum. It is revealed only by auscultation; it is indicated by a physical sign, of which the characters are quite special. There is a murmur very prolonged and unique, which commences at the systole, and is prolonged in such a way as to entirely cover the natural tic-tac; it has its maximum, not at the apex, as in alterations of the auriculo-ventricular orifices, nor at the right base, as in contraction of the aorta, nor at the left, as in pulmonary stenosis, but at the superior third of the præcordial region; it is median, as is the septum, and from this central point it diminishes in intensity regularly and in proportion as it extends; it is fixed, and not propagated into the vessels; it is associated with no other sign of organic affection except purring tremor. An anomalous *bruit*, possessing this group of characters, is the pathognomonic sign of patency of the interventricular septum. The age of the patient is an important element in the diagnosis; a murmur in an infant at the breast being almost certainly an indication of some anomaly of the central circulation. The prognosis is far less grave than in cardiac disease, as life may be prolonged to beyond middle age. As regards treatment, the diagnosis is important; for, while active treatment is necessary in cardiac disease, it is useless, and even harmful, in cases of malformation.

5. *Woodward on the Microscopical Character of Diarrhæal Stools.*—Dr. J. J. Woodward (*Med. Surg. Hist. War of Rebellion*, page 278) gives the results of microscopical examination of the stools in acute diarrhœa. Omitting part of undigested food, the following appearances are met with. (1) Corpuscles similar to the white corpuscles of the blood are seen either in glairy masses of mucus or in yellowish opaque fluid. In either case, they are to be regarded as white blood-corpuscles that have wandered from the blood-vessels of the inflamed mucous membrane. The number of these bodies and their association with mucus, or their aggregation as pus, afford valuable indications as to the intensity of the inflammatory process. (2) Red blood-corpuscles, variously deformed by their sojourn in the intestines, are found. In consequence of their changes, they often give the stools a blackish or brownish hue. (3) Epithelial elements from the intestinal mucous membrane are seen. (4) Crystals of the triple phosphates of ammonia and magnesia are very commonly found whenever the liquid stools are alkaline, which is usually the case. (5) Low vegetable forms are of constant occurrence. The importance of these will be less significant, when it is remembered that a large part of the substance of normal human feces is made up of these low forms. Hundreds of millions of these must be passed in the feces each day. They consist of extremely minute spherical elements, elongated rod-like forms, and larger elliptical bodies resembling torula cells. Burdon Sanderson calls these microgenes; Billroth, coccobacteria septica.

6. *Regnard on the Chemical Composition of Bones in the Joint-Affections of Locomotor Ataxia.*—M. Regnard has been studying the chemical composition of bones which have undergone those striking changes of degeneration (*Académie de Médecine, Gazette Hebdomadaire*, December 27, 1879) which M. Charcot has pointed out, and of which he has preserved remarkable specimens in his museum at La Salpêtrière. These researches were made on a femoral bone, of which the two extremities were absolutely absorbed and worn away. It was reduced to powder and dried. One hundred grammes of this bone contained of mineral matters, 24.20 grammes; of organic matters, 75.80 grammes, total, 100 gr. The organic matters were divided thus: fat, 37.70 grammes; osseine, 38.10 grammes, total, 75.80 grammes. The various mineral matters were in the following proportions: phosphate of lime, 10.9 grammes; phosphate of magnesia, 7 decigrammes; carbonate of lime, 11.8 grammes; chlorides, etc., 8 decigrammes; total, 24.20 grammes. The first fact which strikes one is the abundance of fat, 37 per cent., of which the normal bone deprived of its marrow contains very little; then the enormous diminution of phosphate of lime, 11 in place of 48 per cent. The osseine, the carbonates, and the chlorides, remain normal. There is, then, more than dry arthritis in the case of these ataxic patients. There exists a real trophic lesion of the bones; a fatty degeneration, with disappearance of the mineral matters. And this confirms the opinion maintained on that point by Professor Charcot, to whom is due in the first instance our knowledge of this class of disease.

SURGERY.

RECENT PAPERS.

1. LISTER, JOSEPH.—On Antiseptic Surgery. (*Lancet*, December 1879, p. 901.)
2. SHERWELL, S.—The Tattooing of Nævi. (*Archives of Dermatology*, Oct. 1879.)
3. ANNANDALE, T.—On Dependent Position of the Head in Operations on the Mouth and Throat. (*Lancet*, Nov. 8.)
4. HUNTER, C. T.—On Hot Water as a Surgical Hæmostatic. (*Philadelphia Medical Times*, November 22.)
5. SOUTHWORTH.—Urethral Dilatation. (*New York Med. Record*, 1879, p. 386.)
6. PUPI.—Treatment of an Erectile Tumour by Injection of Chloral. (*La France Médicale*, No. 83, 1879.)
7. SKLEFFASSOWSKI.—Gastrostomy for Strictures of the Oesophagus. (*Medizinski Westnik*, 1879, Nos. 21 and 24.)
8. LEE, F. W.—Cirsoid Aneurism of the Scalp. (*Boston Medical Journal*, October 16th, 1879.)
9. FOSTER, NELSON S.—Spontaneous Rupture and Cure of Hydrocele. (*Lancet*, December 1879, p. 871.)
10. MURDOCH, J. B.—Amputation of the Thigh, high up, for limbs crushed by Railroad Accidents. (*Hospital Gazette*, Nov. 1, 1879.)
11. HAMILTON, J. H.—On Fracture of the Patella. (*Hosp. Gazette*, Sept. 6, 1879.)
12. GIBSON, J. G.—Bullet in Brain Five Years. (*Nashville Journal of Medicine and Surgery*, Nov. 1879.)
13. STANTON, L. L.—Gun-shot Wound of the Bladder. (*Maryland Med. Journal*, Oct. 1879.)
14. KRONLEIN.—On the Operative Surgery of the Digestive Tract. (*Berlin Klin. Wochenschrift*, 1879, Nos. 34-35.)
15. HEIN.—Use of Cold Baths in Strangulated Hernia. (*Wiener Medizin. Wochenschrift*, Nos. 26 and 27, 1879.)
16. THOMAS.—Details in the Use of the India-rubber Bandage. (*Philadelphia Med. Times*, Dec. 1, 1879.)

17. PETIT, L. H.—On Locomotor Ataxy in its Relations with Traumatism. (*Revue Mensuelle de Médecine et de Chirurgie*, March 1879, and *Revue des Sciences Médicales*, October 15, 1879.)

1. *Lister on Antiseptic Surgery*.—In a clinical lecture, Mr. Lister entered into details of the mode in which he opens the chest in cases of empyema. The skin is first washed with a solution of carbolic acid, 1 to 20. The opening is then made into the pleura, under a thoroughly trustworthy carbolic spray; empyema, when operated upon, requiring special care in the use of the spray, in order to secure a perfectly antiseptic atmosphere, and thus to secure absolute freedom from suppuration. In the next place, the carbolic gauze for dressing requires careful preparation, and is made with one part of carbolic acid, four of resin, and four of paraffin. This gauze is applied in eight layers, and secured by elastic bands to the chest. An ordinary caoutchouc drainage-tube is sufficient for the first few days; afterwards, on account of the tendency of the thorax to contract, a metallic tube is preferable and its use avoids any necessity for gouging out portions of the ribs, which is sometimes done in Germany. Ill effects from using carbolic acid spray or lotion have rarely occurred in Mr. Lister's practice; one lady, after removal of the breast, could not tolerate the use of carbolic acid, and was obliged to be treated with boracic dressings, but such cases are rare. Boracic dressings are valuable in skin-grafting. A case was thus treated. The large callous and foul sore, having been dressed for a few days with moist boracic lint, covered with gutta-percha tissue, was purified completely by sprinkling the surface with iodoform. Protective tissue, dipped in boracic lotion, was then applied to the sore, and covered with boracic lint overlapping well in every direction. This was changed every third or fourth day, until the granulations were thoroughly healthy. Skin-grafting was then performed by shaving a slice, a quarter of an inch across, consisting of little more than epidermis, from the inner side of the arm, which had been previously washed with a 1 to 40 watery solution of carbolic acid, cutting this into small pieces, on the thumb-nail, and placing each, with the raw surface downwards, on the granulations, covering each graft, as it was deposited, with a little bit of protective, dipped in boracic lotion. A general piece of protective, rather larger than the sore, was then applied, and over this boracic lint in two layers. At the end of a week all nine grafts had taken root, and cicatrization proceeded rapidly. Mr. Lister next drew attention to a very large wound in the back, subsequent to removal of a large recurrent fibroid, measuring five inches in breadth by a foot in length, with a deep cavity where four of the spinous processes had been cut away. By means of an ingenious use of button-sutures, this large wound was covered by a plastic operation and dressed antiseptically. Secondary hamorrhage occurring, and the patient tossing about, caused some of the stitches to give way, leaving a gap about two inches in diameter, exposing the interior of the hollow wound. At the end of twelve days, there was no suppuration, the cavity was much smaller, owing to exuded liquor sanguinis coagulating and forming a solid ring within, the earlier portions exuded becoming organised, and assuming the character of epidermic formation, in the vicinity of the pre-existing epidermis of the cutaneous margin. Another process of cicatrization had been going on without the production

of any pus, and even without the formation of any granulation. This presents a marvellous and incredible contrast with the old mode of healing by granulation and suppuration. Mr. Lister next insisted upon the necessity of a properly prepared protective, consisting essentially of oiled silk well covered on both sides with copal varnish, the principal object of which is to keep the carbolic acid of the gauze away from the sore. Those who object to such protective as too thick and substantial, do not comprehend fully the *rationale* of using such a substance.

R. NEALE, M.D.

2. *Sherwell on Tattooing of Nævi*.—Dr. Sherwell, at the third annual meeting of the American Dermatological Association, August 27, 1879, observed (*Archives of Dermatology*, October 1879) that on February 13, 1877, at a meeting of the New York Dermatological Society, he read a paper with the above title—afterwards published in vol. iii, page 214, of the *Archives of Dermatology*—giving accounts of successful operative procedures of this nature in a few cases. He presents to the association now a case in which the merits of the operation are fairly shown, and where the benefit had certainly been very great. It illustrates, too, various points, as to the necessarily long duration of treatment, etc. The nævus was of a dark claret colour—the orthodox port-wine stain; it involved the whole chin, extending transversely across the face along the border of the lower lip. The inferior aspect of the chin was also involved to a corresponding area; it was not quite circular in outline, but there were peninsular prolongations running out here and there, also on the centre of the left cheek a well defined dark stain about an inch (rather more than less) in diameter. The patient, during the eighteen months subsequent to September, 1877, had been tattooed over the whole surface (with exception of a spot on the cheek, cured in one operation) twice, at intervals of months, once with chromic, once with carbolic acid, dilute; other couple of times comparatively smaller areas of the worst remaining parts were selected and operated upon. The last operation was performed about seven months since. The author had purposely postponed another, which he hoped would be very effective, till October or November, having wished to show the case before the Association, and also to take advantage of the cooler weather, which allows the collodion coating to remain on and exercise its contractile force longer when the perspiration from beneath is comparatively absent, also as being at such a time less obnoxious to the patient. While, then, this mode of treatment is neither painless, instantaneous in results, nor, as he once alleged, never leaves a scar (it sometimes does—a small flattened one, as might be observed), he thinks it has advantages over all other methods with which he is at present acquainted. Certainly the method recommended by Mr. Balmanno Squire has been unsuccessful, as far as he can learn, in the hands of those in New York who have tried it. He has not changed his after-treatment in any marked degree, and still believes in the rationale of the application of the collodion coat over the freshly perforated skin, for reasons given in the above-mentioned article. His styptic applications are the same as those named, and he would in all instances recommend a tentatory or exploratory operation, with somewhat milder applications, as an index for testing the sensitiveness or idiosyncrasy of the patient. He adds that ordinarily, in this method, as in all others intended for the relief of nævi, the

difficulty, or at least the tediousness, of cure is in almost universal proportion to their size; the smaller naevi disappear often after one operation. Then, again, the well-known great difference in sensitiveness of the different parts of the body must be taken into consideration. A slight scarring under the chin in this case was caused by the same strength of application that was applied without anything but benefit to the parts above. Nothing but some experience in this matter can guide. Parts that are pendulous and soft, as the lips, appear more difficult to operate on, from their resiliency, etc., and do not show so good a result relatively, caused, he considers, by the comparatively ineffective compression from the collodion coating in these situations. He thinks that the brow would be far the most favourable site for operation, all things being equal.

3. *Annandale on a Dependent Position of the Head in Operations on the Mouth and Throat.*—Professor Annandale (*Lancet*, Nov. 8, 1879) writes: Eighteen months ago, when removing the greater part of the lower jaw, including its symphysis, I tried the plan of allowing the patient's head to fall over the edge of the table. Although the tongue immediately fell back toward the posterior wall of the pharynx after the attachments of the tongue to the jaw had been freely divided, the man's breathing was perfectly easy—much more so than when the head was raised or lay level with the trunk. Before the patient left the theatre, I demonstrated this fact several times to the students present, and thoroughly convinced them and myself of its correctness. The experience of this case led me to place the head in the same position in my next operation on the throat (thyrotomy); and since then I have performed many operations in this way on the mouth and throat with complete success, and with great facility as regards the prevention of blood from passing into the air-passages, the obtaining a good view of the parts, and the carrying out of the necessary manipulations. Among the operations in which I have used this method have been, a second case of thyrotomy, two cases of tumour of the palate, one case of large epulis, and three cases of cleft palate. In all these operations I have been impressed with the advantages of this position of the head. Complete anaesthesia by means of chloroform, or a mixture of chloroform and ether, has been kept up without any inconvenience during the whole proceedings. My present method of keeping the head in this position is to have it hanging over the end of the table and supported there by the hands of an assistant; but I am having a little addition made to my operating table, which will allow the head to be supported in this position more efficiently.

4. *Hunter on Hot Water as a Surgical Haemostatic.*—Dr. C. T. Hunter (*Philadelphia Medical Times*, Nov. 22) gives his experience of the use of hot water in the University Hospital. He says: Probably in no class of cases is the superiority of hot water as a styptic over cold more marked than in those of threatened shock, and exhaustion from hæmorrhage, consequent on a prolonged and bloody operation. In such cases, repeated drenchings of the wound with ice-cold water for the purpose of checking parenchymatous hæmorrhage have the effect of lowering the bodily temperature, and, to an equal extent, weakening the natural recuperative powers. On the other hand, hot water not only acts more promptly as a hæmostatic than cold, but likewise adds materially to the general temperature of the body, and thereby tends to ward off 'the depressant

action of a serious operation'. When I first began to use this styptic, I was exceedingly curious as to what might be the subsequent progress of wounds treated with it. I have been much gratified, however, to find that serous oozing is increased in no appreciable degree, and that final union of wounds is not in the least retarded. The many advantages that hot water possesses as a hæmostatic over the chemical styptics, so far as its influence on healing is concerned, will be sufficiently obvious to those who have had any experience in the use of these agents.

5. *Southworth on Urethral Dilatation.*—Dr. Southworth (*New York Med. Record*, 1879, p. 386), recognising the impropriety of enlarging the meatus when it is within eight millimètres of the calibre of the spongy portion of the canal, and hence the impossibility of sufficiently dilating strictures situated within the first inch of the urethra with any of the dilating instruments now in use, has resorted to the expedient of introducing ovoidal wedges of different sizes. These are made of lead, flattened and grooved on one side, and are put in position previous to the insertion of the conical steel sound, which latter is made to glide along the grooved surface of the wedge, thus stretching to any desired extent the ruptured or incised tissues. A small wire should be attached to these wedges for convenience of introduction and removal.

6. *Pupi on the Treatment of an Erectile Tumour by the Injection of Chloral.*—In a case of rapidly extending erectile tumour, situated in the nasopalpebral region, Dr. Antonio Pupi (*La France Médicale*, No. 83), after failing to arrest the disease by other methods, succeeded in curing it by injecting chloral into the base of the tumour. He was led to try this method from the fact that chloral is not only a hæmostatic and cicatrissant, but that it also has the power of coagulating recently drawn blood, the coagulum so formed being insoluble. Three injections were made, at intervals of fifteen days, the strength of the solution being 1 to 10 of distilled water. Each injection was followed by tumefaction, which, however, was painless, and lasted only four or five days. The cure was so complete, that the traces of the tumour could be detected only by one who was acquainted with the case.

7. *Skleffassowski on Gastrostomy for Strictures of the Oesophagus.*—Skleffassowski (*Medizinische Westnik*, 1879, Nos. 21 and 24) relates in detail the case of a man, aged 38, who was suffering from complete cancerous obstruction of the oesophagus, and had for fifteen days been nourished by enemata, as at last not even water could pass the stricture. The operation was very successfully performed according to the accepted method, with strict antiseptic precautions, and the stomach opened by an incision passing from the xiphoid process, opposite the border of the eighth rib, to the left outwards for 2.4 inches. The opening in the stomach was stitched to the wound in the walls of the abdomen by catgut ligatures: for a time the patient showed signs of favourable reaction. He was nourished by a little milk and sherry every three hours. But he fell off again in twenty hours, and died with symptoms of pneumonia. The left lung showed universal adhesions to the pleura, and bronchiectatic caverns. The aperture in the stomach was an inch below the cardiac entrance, and was adherent to the abdominal wall.

8. *Lee on Cirroid Aneurism of the Scalp.*—A case of unusual interest which has recently occurred at the Cook County Hospital, Chicago, in the service of Dr

E. W. Lee, is recorded in the *Boston Medical Journal*, October 16, 1879. A man was admitted with an enormous cirroid aneurism of the scalp, covering the whole top of the head. The disease started in childhood from the effect of a blow, and had steadily increased in extent. Shortly before admission it had ulcerated, and a dangerous hæmorrhage had taken place. The opening was padded, and the pad secured by a Martin's bandage carried round the head. As there was no chance of closing the opening without formidable operative procedures, it was determined to ligate in turn both carotids, to lessen the blood-pressure within the aneurism, then to extirpate the tumour, secure the vessels, and hope for union and a cure. Except in the double ligation of large vessels, this was an operation that had been several times made with success. The size of the aneurism made it necessary to take this unusual precaution to control hæmorrhage. The first carotid was successfully and easily tied, the result being a slight tendency to coma and stoppage of respirations. The patient promptly recovered from these symptoms, and in a week the second carotid was ligatured. Death seemed imminent before the patient left the table; the respiration and pulse failed greatly, but afterward became satisfactory. It was the design to extirpate the tumour at this time, but this part of the operation was postponed. Symptoms of aphasia and right hemiplegia soon supervened, which never disappeared. In four days the final operation was made: the aneurism was entirely removed. Again the patient came near dying on the operating table. He rallied, but in the evening of the next day exhaustion was so profound that transfusion of blood was performed; this operation was repeated at midnight, a total of twenty-eight ounces of blood being introduced. The result of each transfusion was to bring down the pulse to more nearly a normal rate, and make it stronger. The case now got on well for two or three days, when a chill announced the accession of septicæmia. Death occurred in about five days from the last operation. A *post mortem* examination was not allowed.

9. *Foster on Spontaneous Rupture and Cure of Hydrocele.*—A powerful man, aged 58, had suffered from left hydrocele for seven years. It had been tapped a dozen times. Two months after the last operation it had attained the size of a cocoa-nut, when, one night, a few minutes after retiring to rest, he was suddenly seized with violent pains in the genitals, and the penis was quickly swollen to thrice its size. Next morning the patient was quite free from pain, the hydrocele had disappeared, but the penis and parts around were infiltrated with serum, which oozed out on punctures being made. In a few days the patient was well, and continued so nine months subsequently. [Mr. Frost, *Lancet*, December 1878, p. 843, reports a similar case of cure where the rupture, however, followed a blow. Ten days subsequently all trace of the disease had vanished.—*Rep.*]

R. NEALE, M.D.

10. *Murdoch on Amputation of the Thigh, high up, for Limbs Crushed by Railroad Accidents.*—Dr. J. B. Murdoch (*New York Hosp. Gazette*, Nov. 1st, 1879), after citing Erichsen and others who advise that the patient be permitted to die in peace rather than to torture him with amputation after extensive crush and disorganisation of the lower extremity up to or above the middle of the thigh, such as are not unfrequent at the present day from railway accidents, relates three cases in which amputation was per-

formed within, respectively, one half, one, and two hours after injury, the last being a double amputation (the right thigh at its middle and left leg at the junction of the upper and middle thirds), all of which were successful, the patients being able to resume business within ninety days. He says: 'I have not in the report of these cases given any of the details of treatment, as my only object in reporting them is to establish the fact that amputation of the thigh, as high up as the trochanter major, may be successfully performed on the full-grown adult, even when the limbs have been extensively crushed and disorganised up to or above the middle of the thigh. The three cases whose history has been given have been selected from a series of twenty-one cases of amputation of the thigh for railroad injury, treated at the Western Pennsylvania Hospital. Of these, ten proved fatal. During the past four years I have myself amputated eight thighs, seven of which were at or about the middle; of these four proved fatal. I believe that the experience of other railroad surgeons in this locality agrees with my own, and that they will coincide with me when I say that Mr. Erichsen has stated the danger in the cases referred to a little too strongly.'

11. *Hamilton on Fracture of the Patella.*—Dr. Frank H. Hamilton (*New York Hosp. Gazette*, Sept. 6th, 1879), in an article under the heading of 'A Study of About One Hundred and Twenty Cases of Fracture of the Patella', calls attention to the following points which have attracted his attention, viz:—(1) The large proportion of simple transverse fractures, and the unfrequency of comminuted and compound fractures; (2) The frequency of fracture from muscular action; (3) The frequency of early joint-effusions; (4) The difficulty which has constantly been experienced in securing and maintaining apposition of the fragments. (5) The great variety of methods which have been adopted, and the frequent changes made in the treatment of the individual cases; either because of their inefficiency, or because of the pain and excoriations or other more serious injuries which they have occasioned; and the equally good results where the attempts to get close union have been less assiduous. (6) The uniformity of a fibrous union with some separation. (7) The frequency of a re-fracture, and its more serious results. (8) The frequency of ankylosis, and its proportion to the time the limb is kept in splints. (9) The great time which elapses before the functions of the limb are restored. (10) The inadequacy of the ordinary knee-caps while the patients walk about. (11) The remarkable power of restoration of the functions of the limb after a time, when no union of the fragments has taken place, if only the patient continues to use the limb, and thus develops the muscles.

12. *Gibson on Bullet in Brain Five Years, Patient remaining well.*—Dr. J. E. Gibson (*Nashville Journal of Medicine and Surgery*, Nov. 1879) reports that a convict who was admitted to the Tennessee State Prison, had been shot in the forehead in 1874. The bullet entered the skull about one inch above the supra-orbital ridge, and half an inch to the right of the median line of the forehead. He was confined to his bed little more than a month. Finally recovering, he showed no signs of irritation from the presence of a foreign body until in July 1879, being perfectly well when admitted. In July, Dr. Gibson found him in a muttering delirium; pupils widely dilated, pulse frequent, weak and irregular, and respiration laboured. There was no evidence of paralysis.

The bowels and bladder were evacuated naturally on first and second days. Every organ responded promptly to medicine, but he died on the fourth day. At the necropsy the membranes were found congested, the right anterior lobe one-third smaller than the left, a canal running through the right anterior lobe from front to back, and the flattened bullet at its termination. Some small spicula of bone, and one about the size of a ten cent piece, were also found in the neighbourhood of the bullet. The necropsy disclosed no reason why the bullet, which had lain in the brain for so long a time, should have so suddenly caused his death.

13. *Stanton on Gun-shot Wound of the Bladder.*—Dr. L. L. Stanton, (*Maryland Med. Journal*, Oct. 1879), reports this case. A gentleman, wounded in a battle near Richmond, in 1865, consulted him in 1877. He had never been able, since convalescing from his wound, to pass his urine while standing. But while in a recumbent position he could void his urine, accompanied with more or less pain, and frequently with hæmorrhage. In turning from any position in which he had been lying for any length of time to another, he would often feel something move as if in the bladder, always accompanied with pain. His family physician located the bullet at the neck of the bladder, outside and encysted. On examination at this time, although the sensitiveness of the urethra rendered it difficult to introduce a sound, there was no difficulty in discovering a foreign body in the bladder, and, by dexterous manipulation, carrying it to the fundus of the bladder, where it would remain until the patient assumed the perpendicular, when it would fall to its original location in the mouth of the bladder 'with a thump'. The operation of lithotomy was performed on the 16th of April 1877, thirteen years subsequently to his receiving the wound. The foreign body in the bladder was found to be the bullet very much flattened. It measured after extraction $1\frac{1}{4}$ inches wide by $1\frac{1}{2}$ inches long, a little crusted with phosphates and hard sharp edges, which accounted for the frequent hæmorrhages. Four hours after operation a hæmorrhage ensued, which was treated by injecting a strong solution of permanganate of iron. Two days after operation the patient was so low that he seemed about ready to die, when an injection of two drachms of brandy under the skin, and a transfusion of $1\frac{1}{2}$ ounces of defibrinated blood from a fowl, caused him to rally, and he eventually recovered. He was able to ride out in three weeks. At every point where brandy was injected, troublesome ulcers made their appearance. The patient is now attending his farm, although not very robust, yet enjoying a fair degree of health.

14. *Kronlein on the Operative Surgery of the Digestive Tract.*—One of the cases related (*Berlin. Klin. Wochenschrift*, 1879, No. 34-35) is a successful case of gastrostomy. The stricture was due to annular cancer at about the middle of the œsophagus, in a labourer, aged 71. It was impassable even to fluid food. The incision was made parallel to the arches of the left ribs. The wound in the stomach was attached to the abdominal wound under antiseptic precautions, and the stomach was opened five days afterwards. From that time forward, nutrition was entirely carried on by the wound. The result was favourable, except that the patient suffered from very severe thirst which, however, could be fully satisfied by continuous chewing of tobacco. Two months later, the patient died from his cancer. The second case is a very interesting one. A child, six days old,

had had no evacuation of the bowels since its birth. The anus was extremely narrow and terminated in a *cul-de-sac* at 2.5 centimètres high. After division of this in the anterior posterior median line, Kronlein endeavoured to reach the upper *cul-de-sac*. He only succeeded in opening the cavity of the abdomen, from which peritoneal exudation was freely evacuated. The upper *cul-de-sac*, however, was not reached. Laparotomy was then performed in the left groin, and a coil of the small intestine was drawn into the abdominal wound, fixed there, and opened. Contrary to expectation, the child lived and thrived under regular nourishment. Further search and attempts to sound the intestine below from the artificial anus failed. When, however, the child had grown to be seven months old, the upper end of the intestine ending in the *cul-de-sac* could be felt. The previous operation was again undertaken, and the upper *cul-de-sac* successfully united with the lower. At the close of the report a stricture existed at the place of union, but the larger part of the contents of the bowel were already evacuated by the natural anus.

15. *Hein on the Use of Cold Baths in Strangulated Hernia.*—The use of cold in the treatment of strangulated hernia (*Wiener Medizinische Wochenschrift*, No. 26—27) has been often and much recommended for a long series of years, sometimes in the form of bladders of ice, sometimes in the form of cold compresses. These methods have, however, the disadvantage that they must be employed for a long time before any result follows: and if none follow, the favourable moment for operation may have been wasted in the unsuccessful attempt. Dr. Hein observes that in four cases he had perseveringly employed cold applications to the tumour, without bringing about its reduction. On the other hand, he had in two cases favourable results with cold baths, by which he obtained an effect of cold upon the whole intestinal tract. In the first case the patient had had a warm bath ineffectually, and he then put him, sitting up, in a cold bath. The tumour returned of itself while the preparations were being made for the administration of chloroform. In the second case, one of scrotal hernia of the left side, eight hours incarcerated, he gave a bath for fifteen minutes at a temperature of 15 deg. Cent. (59 deg. Fahr.); the reparation was easily effected. Half an hour after the bath, the temperature was 36.4 deg. Cent. (97.5 deg. Fahr.) in the axilla. By this method a lowering of the whole temperature of the body is caused, and thereby contraction of the intestine in its whole length.

16. *Thomas on Details in the Use of the India-rubber Bandage.*—Dr. Thomas (*Phil. Med. Times*, Dec. 1, 1879) gives some striking examples of the great value of this bandage in very obstinate and severe cases, and adds: The quality and size of the bandage are of prime importance. If too thin it is inefficient, and if too thick or hard it becomes a source of irritation and injury. As to dimensions, a four-yard bandage, two and one-half inches wide, will answer perfectly for all cases below the knee. They are now furnished at a price so low (1 dol. 25c.) that they are practically within the reach of the poorest person. And then they are so durable as to last for years without deterioration. In applying the bandage no reversed turns are made, and I think it best to begin directly over the sore, wherever located, letting the bandage rest flatly upon it, afterwards making the adaptation to the rest of the leg as best one may. This being done in bed, before rising in the morning, it may be applied just so strongly as not to slip down,

for when the patient assumes an erect posture the increased flow of blood to the part will induce the proper amount of pressure and tightness. Care should be used to avoid contact of oily matters with the rubber, as this would prove injurious; but it should be washed every night and hung up to dry. The ulcer ought also to be kept scrupulously clean. Dr. Martin recommends that no application be used except the bandage; but I am convinced that the interposition of a soft piece of muslin or linen between it and the sore adds greatly to the comfort of the patient and the value of the treatment in some cases.

17. *Petit on Locomotor Ataxy in its Relations with Traumatism.*—M. Landouzy, in a *résumé* of M. Petit's paper on this subject in the *Revue Mensuelle de Médecine et de Chirurgie*, Mars 1879, thus sums up his conclusions (*Revue des Sciences Médicales*, Oct. 1879.) Traumatism having direct or indirect influence on the spine, such as falls on the back, the seat, and the feet, bring on concussion of the medulla and, consequently, lesions which may become the point of departure of a chronic myelitis, and give rise to symptoms of locomotor ataxy. Up to the present time, it cannot be affirmed that distant wounds possess the same pathogenic influence; but it is probable that, in subjects predisposed to general sclerosis, as arthritic, syphilitic, and alcoholic patients, they may, by overexciting the medulla, hasten the development of the ataxy. It is certain that distant wounds may revive an apparently cured ataxy, and accelerate the progress of a co-existent ataxy. Various morbid phenomena, the suppression of habitual transpirations, hæmorrhoids, menses, cutaneous eruptions, cold, metrorrhagia, pregnancy, intercurrent febrile affections, appear to have a similar action to distant wounds. Ataxic manifestations may localise themselves in regions or organs affected either before or after the appearance of the ataxy. In certain cases, prolonged peripheral irritations have brought on nervous phenomena which have been wrongly designated ataxy by some writers. Appropriate treatment has removed the irritation, and the nervous phenomena have disappeared. As locomotor ataxy is often accompanied by disturbances in the nutrition of certain tissues, it is easy to understand that it may modify the local evolution of wounds. This is to some extent proved by certain cases of contusions of joints, fractures, and wounds of the soft parts.

OBSTETRICS AND GYNÆCOLOGY.

RECENT PAPERS.

1. BUDIN, P.—Researches on the Hymen and Vaginal Orifice. (*Annales de Gynécologie*, November 1879.)
2. CALDWELL, J. J.—Impotence and Sterility. (*The Obstetric Gazette*, Cincinnati, November 1879.)
3. CHAIGNOT, HENRI.—Ovarian Pain in Pregnancy. (Ballière et fils, Paris.)
4. COWAN, G.—Uterine Displacements. (*American Practitioner*, August 1879.)
5. DAUZAT, M.—The Frequency of the Contractions of the Fœtal Heart. (*L'Union Médicale*, Aug. 9, 1879.)
6. DUPLAY, M.—Hysterectomy as a Mode of Treatment in Uterine Fibromyomata. (*Annales de Gynécologie*, December 1879.)
7. GUÉNIOT, M.—Hysterectomy. (*Société de Chirurgie*, October 15, 1879.)
8. HARRIS, R. H.—Porro's Operation. (*Obstetric Gazette*, October 1879.)

9. HART, D. B.—The Pelvic Floor as a Normal Support of the Uterus. (*Obstetrical Journal of Great Britain and Ireland*, October 1879.)

10. INGERSLEV, E.—On the Quantity of Red Corpuscles in the Blood of Pregnant Women. (*Centralblatt für Gynäkologie*, December 20, 1879.)

11. LIEBERMANN, C.—Perforation of the Walls of the Uterus by the Uterine Sound. (*American Journal of Obstetrics*, October 1879.)

12. MANEY, A. R.—Epidermic Desquamation of the Fœtus. (*British Medical Journal*, Nov. 1, 1879.)

13. PICARD, M.—On the Cause of the Nervous Phenomena of Uremia. (*Annales de Gynécologie*, Dec. 1879.)

14. QUEIREL, A. and ROUVIER, JULES.—Statistical Researches on Menstruation at Marseilles and at the mouths of the Rhone. (*Annales de Gynécologie*, December 1879.)

15. SCHÜCKING.—The Quantity of Blood in New-born Children. (*Berlin. Klin. Woch.*, 1879, No. 39.)

16. SIMPSON, A. R.—The Use of the Volsella in Gynecology. (*Edinburgh Medical Journal*, Oct. 1879.)

17. TAYLOR, W. H.—The Treatment of Sterility by Electricity. (*Obstetric Gazette*, Cincinnati, Nov. 1879.)

18. TILLAUX, M.—Hysterectomy as a Mode of Treatment of Uterine Fibromyomata. (*Académie de Médecine*, Oct. 14, 1879.)

19. TRENHOLME, E. H.—The Value of the Hodge Pessary in Flexions of the Uterus. (*Obstetrical Journal of Great Britain and Ireland*, December 1879.)

1. *Budin on the Hymen.*—Dr. Budin has made several dissections of the vagina and vulva in virgins, and has found that the hymen is in reality constituted by the anterior extremity of the vaginal canal. The vagina may be regarded as the finger of a glove presenting at its anterior extremity a circular orifice. This circular perforated extremity of the finger of the glove comes forward and insinuates itself between the labia minora, where it juts out and forms what is called the hymen. The dissection showing this has been repeatedly made by Dr. Budin, and always with the same result. When the dissection is carried out completely, he is able to remove the uterus and whole of the vagina; and with the removal of the vagina, which is easily separated from the surrounding structures, the hymen is found to have completely disappeared.

3. *Chaignot on Ovarian Pain [during Pregnancy].*—Dr. Chaignot arrives, after the study of many cases, at the following conclusions. Abdominal palpation practised at the end of pregnancy may, in a certain number of women, produce a sudden and sometimes very sharp pain near the sides of the uterus. This pain, in addition to its being provoked, is always of short duration, and clearly localised. If the conditions of the examinations remain the same, the physician can always reproduce them at will. It only appears when a small movable tumour of ovoid form is pressed against the uterus. He believes with Budin that the above-named small tumour is nothing else but the ovary, which is painful when compressed. It appears to be necessary for the production of this pain that there must be a resisting surface behind the ovarian tumour, such as the dorsal surface of the fœtus, or the contracted uterus. The ovarian pain appears most frequently on the left. This is due to the inclination and twisting of the uterus, which turns its left border forwards and produces the frequency of occipito-iliac left anterior positions. The most frequent spot for the pain is near a line drawn from the anterior superior spine of the ilium to the umbilicus, generally a few centimètres above it, during the last month of gestation. The average distances are from 8 to 10 centimètres

from the anterior superior iliac spine; from 17 to 19 centimètres from the umbilicus, and 6 centimètres behind the projection formed by the round ligament. His observations do not enable him to affirm the existence of spontaneous ovarian pain during pregnancy. He believes it to be possible, but it is necessary that favourable conditions be present. After labour, it is possible in some cases to reproduce the ovarian pain. It is then beneath a line drawn from the anterior superior iliac spine to the umbilicus.

6. *Duplay on Hysterectomy for Uterine Fibromyoma.*—Dr. Duplay has twice performed ablation of the uterus for the removal of fibroid uteri. In the first case, the patient was forty-one years old and had two children. She died on the second day. In the second case, the patient was twenty-six years old and single. She recovered. In both cases the pedicle was fixed in the inferior angle of the wound. In neither case was there any complication beyond a difficulty in the first case of drawing the tumour out of the pelvis, overcome by dividing it; and some adhesion of the epiploon in both cases. The Listerian method was not employed.

7. *Guéniot on Ablation of the Uterus.*—M. Guéniot reports a case in which M. Dezanneau removed a fibroid uterus from a woman, aged 47, in Angers. The epiploon was adherent to the tumour over the whole of its anterior surface. The ovaries were healthy. The uterine pedicle was fixed in the abdominal wound. The Listerian method was used throughout, and M. Dezanneau attributes to this the successful result of the operation. The patient had perfectly recovered at the end of six weeks.

8. *Harris on Porro's Operation.*—Dr. Harris states that the number of cases of this operation already published amounts to thirty-one, of which fourteen mothers recovered, and seventeen died, and of the children four were saved alive. In Italy it has been performed twelve times, in Austria eight times, in France three times, in Germany twice, in Belgium twice, in Denmark, Russia, Switzerland, and the United States once. [It is doubtful whether or not these statistics represent the actual mortality. It is certain that all the successful cases have been reported, but not equally certain that no unsuccessful ones have been suppressed. Of late years, the mortality of Caesarian section has been less than that given above of Porro's operation.—*Ref.*]

9. *Hart on the Pelvic Floor as a Support of the Uterus.*—Dr. Hart points out that the pelvic floor is made up of two parts. The pubic part is composed of slack membranous tissue and has loose attachments; it rests on the posterior sacral part, and by being driven down causes prolapsus uteri. The posterior quadrilateral part has strong bony attachments and resistant tissue, is thinned out and driven down in labour, supports the pubic half, and by laceration of its anterior and lower edge allows that slipping past of the atonic anterior pubic triangle which initiates and may end in prolapsus uteri. He draws the following conclusions.—1. The virgin pelvic diaphragm is an unbroken flesh layer, with no cavities in it. 2. It may be regarded as divided into pubic and sacral parts, differing anatomically and functionally by the vaginal slit. 3. The uterus lies anteverted on this unbroken layer independent of ligamentous or other support, and its lips are attached, one to the anterior half, the other to the posterior half of the pelvic floor. 4. Prolapsus of the uterus is caused by the slipping of the anterior half past the posterior half. The uterus never comes down but is dragged down. 5. In-

creased weight of the uterus in itself does not initiate prolapse. The three factors concerned are: (a) loss of apposition of the pubic and sacral parts, in most cases started by perineal laceration; (b) loss of 'tone' of the anterior triangle; (c) intra-abdominal pressure.

11. *Liebermann on Perforation of the Uterine Walls by the Sound.*—Dr. Liebermann accidentally perforated the uterus with the sound in two cases. He did not use any particular force. The results of experiments since made on one hundred fresh cadavers lead him to the following conclusions.—1. Before sounding, ascertain by bimanual examination, or *per rectum*, the volume and shape of the uterus, for in this manner the length of the cavity may be approximately determined. Thus, the instrument will traverse a known course, and when it has arrived at a certain depth corresponding to the approximate length of the cavity, caution should be increased. 2. Inflexions do not lift the uterus with the sound, unless previously convinced that it may be replaced by the hand in the vaginal vault. 3. Shortly after parturition or abortion, even after some months, if the patient be greatly reduced, or low from some puerperal affection, and a condition of subinvolution or atrophy of the uterus may be expected, do not resort to the metallic sound, but to elastic or wax bougies. A different course is indicated in uterine myomata, and where any other intra-uterine neoplasm may be suspected; so also in all individuals presenting the symptoms of advanced marasmus, whether in consequence of pulmonary phthisis or other wasting diseases, or also in advanced age. 4. Never introduce the sound when the mobility of the uterus is limited.

12. *Manby on Epidermic Desquamation of the Fetus.*—Mr. Manby is of opinion that the statement of Dr. Delore to the effect that 'the epidermic desquamation of the fœtus is an incontestable proof of death in the uterine cavity' is not absolutely true in all cases. He was called to Mrs. S., aged 39, in whom natural labour was completed in twelve hours. The placenta was torn and ragged, so rotten that the furus was torn in extraction, and handling it was extremely unpleasant. The child, a lusty male, had to be washed with great care, as its epidermis loosened and separated in flakes on the towel, leaving large raw surfaces of cutis exposed. It, however, grew well and flourished.

18. *Tillaux on Ablation of the Uterus.*—M. Tillaux read the notes of a case in which he removed a fibroid uterus from a woman aged 35 years. She was admitted into the Lariboisière hospital in 1876, on account of uterine hæmorrhages; she improved with rest and treatment, and left the hospital. In March 1879, she was admitted into the Beaujon hospital in the last stage of exhaustion from anæmia. She begged M. Tillaux to operate; and, after recruiting her strength for a few weeks, he proceeded to remove the uterus. The operation was conducted under Listerian precautions. There were several strong adhesions of the intestines to the tumour. These were broken down by the finger. The pedicle was transfixed and ligatured, and was fixed in the inferior angle of the abdominal wound. The result was excellent. The patient recovered completely. A short time after the operation, menstruation occurred. M. Tillaux thought this came from the cervix which was left behind.

FANCOURT BARNES, M.D.

OPHTHALMOLOGY AND OTOLOGY.

RECENT PAPERS.

1. FONSECA.—Dacrocystitis and Lachrymal Fistula. (*Correio Medico de Lisboa*, No. 22, Nov. 15.)
2. PARINAUD.—Atrophy of the Optic Nerve in Erysipelas of the Face. (*Centralblatt für Med.*, 1879, p. 614.
3. HARTMANN.—On an Apparatus for Washing out the Middle Ear. (*Deutsche Med. Wochenschrift*, Nov. 1, 1879.)
4. SNELLEN, H.—Antiseptic Dressings in Operations on the Eye. (*Brit. Med. Jour.*, Sept. 20, 1879.)
5. KNAPP, H.—On Peripheral Division of the Capsule in Cataract Operations. (*Archives of Ophthalmology*, July 1879.)
6. HOLTZ, F. C.—On a New Operation for Entropion and Trichiasis. (*Ibid.*)
7. DURR.—On the Results of Attempts at Keratoplasty. (*Klin. Monatsbl. für Augenheilkunde*, 1879; xvii, s. 317.)
8. SCHWARTZE.—Mastoid Disease treated by Operation. (*American Journal of Otolaryngology*, July 1879.)

1. *Fonseca on the Treatment of Dacrocystitis and Lachrymal Fistula.*—Every surgeon knows how tedious and unsatisfactory the treatment of such cases often is, and how much patience and perseverance is necessary to obtain even a very small modicum of success. Dr. Fonseca (*Correio Medico de Lisboa*, No. 22, November 15) proposes to remove this reproach from surgery, and has published a series of cases in which he has successfully treated epiphora dacrocystitis, and lachrymal fistulae, by means of very small probe-pointed sounds, uniform in size. These are passed into the sac, either through the upper or the lower punctum, without previous incision. This treatment can often be advantageously supplemented by injections of cold water. The same sized probe should always be used, and that at intervals of three or four days. The author is opposed to the use of a series of probes of increasing size, and considers Bowman's treatment unnecessarily severe. One case of epiphora, complicated with dacrocystitis and fistula of five years' standing, was cured completely in sixteen days. The author concedes that the method may not be applicable to all cases; but where it is applicable, it will give better results, with more rapidity and with less risk of danger to the mechanism of the parts, than any he is acquainted with. [The above treatment has already been extensively practised by Becker of Heidelberg, and Dr. de Wecker of Paris. The author is, no doubt, right in his views regarding the value of injections, and the unnecessarily large probes that are often passed. In most cases, however, a partial slitting up of the canaliculus will be found necessary. Injections can only be of use in cases where, along with an unhealthy condition of the mucous membrane of the sac, the puncta are not displaced or the canaliculi or ducts organically altered.]

LITTON FORBES.

2. *Parinaud on Atrophy of the Optic Nerve in Erysipelas of the Face.*—Parinaud (*Centralb. für Med. Wiss.*, 1879, p. 614; from *Archives Gén.*) says that only six cases of this nature can be found in literature. He describes two additional instances. The first is that of a woman, aged 26, who had suffered from erysipelas running its usual course, and in whom a sudden increase of temperature took place, with severe headache on the left side. During the next few days, the patient observed a marked diminution in the

sight of the left eye, while the right became almost totally blind. Ophthalmoscopic examination showed neuritis anterior. At the end of a month, distinctness of vision had somewhat improved, but it never entirely returned. The second case, in a person aged 59, was very similar, both eyes, however, being affected to about the same degree. In five of the cases referred to, one eye only was affected. In the sixth case, as in Parinaud's, both were diseased. Parinaud thinks that the unilateral eye-trouble depends upon an affection of the optic nerve alone, which does not extend to the chiasma. In the double cases, the origin of the trouble is to be sought for in the central organ.

3. *Hartmann on an Apparatus for Washing Out the Middle Ear.*—In the *Deutsche Med. Wochenschrift* of November 1, Dr. A. Hartmann of Berlin describes an instrument which he has devised for washing out the cavity of the tympanum. This consists of a straight silver tube two millimètres thick and eight centimètres long, the middle portion of which is perfectly straight, the end for insertion into the tympanic cavity being bent at nearly a right angle; this bent part measures only about one millimètre. The opposite end of the tube is curved at an open angle, and swells out so as to afford attachment to an India-rubber tube connected with a syringe. The tubing should be as thin and light as possible. The instrument is generally introduced into the tympanum through the speculum, and with the light reflected from the usual mirror. In using the apparatus, only a very gentle stream should at first be injected, and if this be well borne, it can be gradually rendered stronger. The conditions in which washing out the cavity of the tympanum is indicated are, in the author's opinion, the following. (1.) In all cases of chronic purulent inflammation of the middle ear, in which it is suspected that, besides the secretions removed by the usual injection, there remain others accumulated in crevices in the tympanum or in the mastoid cells. (2.) In patients suffering, or who have recently suffered, from inflammation of the middle ear, if symptoms of inflammatory irritation, or indications of pressure, stupor, headache, or giddiness arise, which suggest the presence of accumulated secretions in the tympanum or its communicating cavities. (3.) In caries of the external auditory canal. The author has used his apparatus in such cases, introducing the point of the tube into the fistulous opening, and cleansing the part with a stream of water.

4. *Snellen on Antiseptic Dressing in Operations on the Eye.*—Professor H. Snellen (*Brit. Med. Jour.*, September 20, 1879) draws the following conclusions. (1.) Suppuration following operations on the eye is an analogous process to suppuration after cutaneous operations. For this reason, antiseptic measures, which are modified according to circumstances, would have the same prophylactic importance. (2.) No operation on the cornea ought to be undertaken without having previously thoroughly cleansed with a one per cent. solution of carbolic acid the part which is to be operated upon, as well as everything that can possibly come in contact with it. The instruments must be cleansed with alcohol. (3.) As it is almost impossible to use Lister's spray in operations on the cornea, a current of air, purified with carbolic acid, may be substituted in its stead. (4.) Rags dipped in pure vaseline and purified cotton-wool will prove a sufficient dressing both for antiseptic purposes as well as to keep out the air. No irritating antiseptic means that might eventually in-

crease the secretions of the conjunctiva and the glands of the eyelids must be employed.

5. *Knapp on Peripheral Division of Capsule in Cataract Operations.*—Dr. H. Knapp (*Archives of Ophthalmology*, July 1879), from a study of his last six hundred cases of cataract extraction, brings into prominence the value of a peripheral division of the capsule. An ordinary Graefe's cystotome, a hook, or any other instrument not perfectly sharp, is inappropriate for the peripheral division of the capsule, since such instruments are but too apt to tear the capsule open in an angular form, which at the periphery is much more injurious than in the centre, since it opens into the vitreous chamber; the capsule should be cut, not lacerated. The two instruments found suitable, are Graefe's cataract knife, and a cutting cystotome. Graefe's knife is passed through the capsule from the outer edge of the cornea section to the inner, its cutting edge directed onward, away from the lens, so as not to press upon the capsule and rupture the zonula in case the capsule be tough. As more convenient, the author has devised a cutting cystotome, the cutting edge of which is straight, perfectly sharp, and forms, with the stem, an angle of from 150 deg. to 160 deg. The point of this cystotome passed gently along the whole corneal section, while, by gentle pressure with the fixation forceps, the wound slightly gapes, produces a linear incision in the capsule of sufficient size for an easy escape of the lens without irregular enlargement at the corners. The cut should be made as large as the corneal section permits. The peculiar advantage of this procedure is the relative absence of capsulitis and iritis. Further remnants of cataract, even in considerable quantities, are shut up in the re-closed capsular bag without producing any irritation. Of seventy-two operations by this method, sixty-seven gave good results and one a moderate result, the others being bad. The author says that, in his practice, this method has given better results than those obtained in any other way.

6. *Holtz on a New Operation for Entropion and Trichiasis.*—Dr. F. C. Holtz (*Archives of Ophthalmology*, July 1879) describes a new plan for relieving entropion and trichiasis. (1.) *Incision.* As this must extend from one commissure to another along the upper margin of the cartilage, the lid-clamp cannot be employed. The accurate location of this parallel to the arched border of the tarsus is very desirable. Although the width of the cartilage varies in different persons, its accurate location may always be defined by the fine furrow of skin which begins two millimètres over the inner canthus, and ascends gradually until it reaches the middle of the lid, whence it descends towards the external canthus, there to terminate about two millimètres above the commissure. The difficulties inherent in making this incision are best overcome by the following plan. While an assistant is fixing the skin of the eyebrows against the supra-orbital margin, with the thumb and forefinger, or a pair of forceps, the centre of the free edge of the lid is seized and drawn downward until the skin is moderately stretched. As both the commissures are fastened to the bones, the centre of the lid only is affected by the downward traction; the free edges obtain a convexity below, while the convex furrow which marks the upper border of the cartilage is transformed into a straight horizontal line. The lid being held in this position, the point of a scalpel is applied at a point two millimètres over the inner canthus, and a horizontal incision made across the

lid to a point two millimètres above the external canthus. The integument being cut, a gaping wound results from the retraction of the upper border. If the muscular layer be not divided and the cartilage exposed, the orbicularis is divided, the knife keeping close to the lower border of the incision. (2.) *Removal of a Strip of Muscular Tissue.* The lid being allowed to recover its natural position, an assistant applies a forceps to the middle of the lower border of the wound, and everts the skin, exposing the muscle. The operator seizes with a fine forceps the muscular fibres next to the border of the skin, and dissects off a strip three millimètres wide all along the border, from canthus to canthus. (3.) *Application of Sutures.* Sutures, usually four, are now so applied as to include nothing but the cutaneous borders, and a piece of the aponeurosis (two to three millimètres wide), to which the skin can be approximated closely by drawing the suture very tightly. No muscular fibres are included in this suture. (4.) *Dressing: Cold Water.* The great feature of this operation is, that the inversion of the cilia is remedied without any loss of skin, and that even in the worst kind of entropion the form of the lid is not mutilated nor its motion disturbed by excessive shortening of its integument. In trichiasis, we must make an incision along the edge of the lid.

7. *Durr on the Results of Attempts at Keratoplasty.*—The author (*Klin. Monatsbl. für Augenheilk.*, Band. xvii, s. 317) has thirteen times carried out partial keratoplasty. Among these were three cases of considerable opacity of the cornea, five of leucoma, one each of ulcer on the cornea, abscess of the cornea and lachrymal fistula, and two of symblepharon. Twice the healing of the flap failed. Seven times complete opacity of the flap followed in the course of the first year. Twice the united and healed cornea appeared more transparent than the piece which had been removed. Once it remained clear for the first year, and became opaque in the course of the second year; in the first case completely so, and in the last case only a slight opacity developed itself, which has thus far not led to complete darkness. Thus, in thirteen cases, the author has had only one half result.

8. *Schwartz on Mastoid Disease Treated by Operation.*—Professor Schwartz, in a monograph on this subject (*Amer. Jour. of Otolaryngology*, July 1879), gives the histories, etc., of fifty cases. The results are recorded in most cases years after the operation. Of the entire number, thirty-five were cured, five uncured, and ten died. The average duration of treatment was from nine to ten months. Of the deaths, two were from meningitis, one from tuberculosis meningitis, two from pyæmia, one from abscess of cerebellum, one from anæmia, one from epithelioma of the os temporis, and two from tuberculosis pulmonum. Of the ten fatal cases, six were wholly independent of the operation. In three, the connection of the operation with death was uncertain, and in one the operation hastened death. In this case, from a malformation of the mastoid, the middle fossa of the skull was opened, and the dura mater perforated by a splinter of bone, producing fatal traumatic meningitis. The effect upon the general health of this operation was of special interest. In one case, chronic and very alarming debility was completely relieved by the cure of the ear-disease. In two, the favourable effect of the operation on tuberculosis pulmonum was very marked. In one, epilepsy was permanently relieved. In two, facial paralysis was cured. Of the cured

cases, hearing became perfectly normal in eight cases; in twenty-three others, it was much improved; in four, absolute deafness remained from destruction of the labyrinth by caries. *Indications for the Operation.* (1.) Acute inflammations of the mastoid cells, with retention of pus, where Wilde's incision or treatment with ice does not relieve the œdema, pain, and fever. (2.) Cases in which there is intermittent swelling over the mastoid and fistulous openings in the skin, or in which nature is evidently endeavouring to affect an opening through the bone. (3.) Cases in which there is fluctuation beneath the cutis or the upper posterior wall of the meatus, corresponding to the floor of the antrum, or where a fistulous opening has already formed at this spot, showing a retention of pus in the antrum; the operation should be performed without hesitation if brain-symptoms are noticed. (4.) Distinct caries of the mastoid, of the mastoid and tympanum, and of the osseous labyrinth, all indicate the operation. (5.) Necrotic caries of the mastoid, evidenced only by a fever and decidedly offensive odour of the pus, in spite of the most careful cleanliness and disinfection of the meatus and Eustachian tube. *Method of Operating.* The hair having been removed and the skin cleaned and disinfected, an incision is made about one centimètre behind the insertion of the auricle, from one to two inches long, and parallel with the auricle. The periosteum is then incised and pushed back, laying bare the bone, and the bleeding checked. If the bone be carious, all the softened bone should be thoroughly removed with a gouge; fistulous openings should be enlarged with the hammer and gouge till, if possible, the little finger can be inserted into the cells. If a loosened sequestrum be found, the external opening must be so enlarged as to admit of its removal; all fungous granulations must be removed with a sharp spoon. The wound must be cleansed, and disinfected, and a drainage-tube inserted. Where the bone is healthy or sclerosed, Schwartze uses the gouge. Large gouges are first used, and smaller ones as the excavation deepens. The beginning of the opening should be made at the height of the meatus, a little behind the auricle. To avoid the lateral sinus, the opening should run inwards, forwards, and downwards, parallel with the meatus, and externally should be as large as possible, even twelve millimètres in height and breadth. In case the lateral sinus arches forwards and outwards, as it does in very rare cases, great care is necessary, and it might be necessary to open the antrum by chiselling away the posterior wall of the meatus. The after-treatment is very tedious, requiring considerable manual dexterity. The part must be kept clean and disinfected, the meatus and Eustachian tube open; the patient must be kept in bed till fever is gone.

9. *Woakes on Throat-Deafness Associated with Paresis of Palato-Tubal Muscles.*—Dr. E. Woakes (*Amer. Jour. of Otology*, October 1879), calls attention to the above relationship. The probability of this will be admitted on remembering that the intrinsic muscles of the ear, viz.—the tensor tympani and stapedius, as well as those of the Eustachian tube and palate, are, with the exception of the salpingo-pharyngeus, supplied by the same nerves or branches of the same. Thus it appears that the muscles which act on the drumhead and ossicles to bring about the state of tension in the conducting media best calculated to receive and propagate vibrations of sound, are associated in their nerve-

supply with the muscles whose function it is to open the tube and so secure the proper entry of air within the cavity of the middle ear, without which the accommodation of the drum-membrane could not take place. Thus it is evident that the recognition of palatal paresis enables us to predicate with considerable exactness the presence of a similar loss of power in the intrinsic muscles of the ear also, which we could not otherwise detect. The combination of both of these conditions of paresis not only interferes with the ventilation of the tympanic cavity, but is destructive of those acts of accommodation essential to the accurate perception of sound-waves. The signs of throat-deafness with paresis are these. There is some collapse of the membrana tympani. The middle ear can be readily inflated through the Eustachian catheter, but the patient cannot usually perform the valsalvian inflation. On inspecting the fauces, we observe that the velum palati presents a very dependent appearance, so that the uvula is not readily visible, and the distinction between the anterior and posterior pillars is almost obliterated, causing it to appear nearly uniformly flat. It looks thin and flabby. It may be tickled with the handle of the mirror without any sign of resentment. In *unilateral paresis* we see that one side of the palatal arch is dropped, and there is the same tendency to obliteration of the arches of the palate on the affected side as in bilateral paresis. The hearing of these patients is best in the morning, gradually becoming worse until night. In nature, these pareses are vaso-motor, affecting one or more ganglia of the sympathetic system. They are very local in their manifestations, and depend entirely on the condition of the nervi vasorum of the nutrient arteries of the motor-sensory nerves, and not at all upon the condition of the sensori-motor centres. It is a question of nutrition of the muscular nerves themselves, and this depends on the blood-supply, which again is regulated by the vaso-motor nerves. These patients are often anæmic, and have undergone mental worry besides physical wear and tear. The treatment is directed to ventilate the tympanic cavity, and build up the nervous system.

REVIEWS.

Physiology and Pathology of the Sympathetic System of Nerves. By Dr. EULENBURG and Dr. P. GUTTMANN. Translated by A. NAPIER, M.D. London: J. and A. Churchill. 1879.

As the most recent research on the Sympathetic System, the work before us is of great interest; and from two such authorities as Eulenburg and Guttmann much may be expected in the elucidation of some of the mysteries of nervous physiology and pathology. This is to a certain extent realised in the present treatise, which gives a masterly *résumé* of all that is known on the sympathetic system of nerves, as well as endorses or negatives conclusions already arrived at by original experiments and researches. The translator states "it was for this essay that the Astley Cooper prize for 1877 was originally awarded to Drs. Eulenburg and Guttmann—a decision, however, which was subsequently overthrown on the technical ground that the paper was the work of two authors, and not of one only, as the terms of Sir A. Cooper's will seem to require."

The work is divided into two parts: 1. The

Physiology, and 2, the Pathology of the Sympathetic System of Nerves.

Under the physiological section, the authors first discuss the subject of experiments on animals on the cervical portion of the sympathetic. They show that the oculo-pupillary branches arise from the spinal cord at the lower cervical and upper dorsal regions, and probably may be traced further to the cortex of the brain. Section of the sympathetic in the neck contracts the pupil, while irritation of the upper portion of the divided nerve dilates it. This last is believed by most authors to be due to a pupil-dilating muscular action. In addition to this, division of the sympathetic produces a flattening of the cornea, a dragging of the eye inward, retraction of the globe of the eye, and decrease in size of the palpebral fissure; and irritation produces exactly the opposite results. The exophthalmos caused by irritation is due to the action of the unstriated muscular fibres supplied by the sympathetic. The cervical sympathetic seems also to have a tonic influence over the voluntary muscles of the eye.

The vaso-motor branches arise in the spinal cord, but at a different part from the oculo-pupillary filaments, namely, at the level of the third and fourth dorsal nerves, and they also probably reach the surface of the brain. The original experiments of Claude Bernard are described, section causing dilatation of the vessels and increase of temperature in the part affected. It is still a matter of dispute, whether this augmented size of the vessels is due to paralysis of their walls or to the action of special dilator muscles. The authors made experiments on the temperature of the rabbit's ear with the electro-galvanometer of G. Meissner and Meyerstein, an instrument of great susceptibility and rapidity in recording results. They found that irritation of the peripheral end of the cut sympathetic caused immediate fall in the temperature, which went on for some time after the discontinuance of the irritation, and was followed by a gradual rise, not, however, reaching its original point. This militates against the doctrine of vessel-dilating nerves in the sympathetic. The authors found that the duration in the rise of temperature is not maintained indefinitely. The difference in the two ears of the rabbit gradually becomes less, subsequently they become equal, and often the affected side is finally of lower temperature than the other. If both carotid arteries be tied and the sympathetic divided on one side only, in this last, the temperature remains lower than the other, showing that the division of the nerve retards the formation of the collateral circulation. The authors deny the correctness of Brown-Séquard's observations concerning the effects of irritation of certain portions of the surface of the brain on the eye; and, after numerous experiments on dogs, they have failed to induce any oculo-pupillary changes. They, however, found that, in four rabbits, irritation of the cortex cerebri caused a fall of temperature on the opposite side. Division or irritation of the sympathetic in the neck produces the same effects on the vessels of the eye as they do elsewhere. Two apparatus are, however, set in motion regarding motor ocular pressure, which oppose one another; and according as one or other predominate, increase or diminution of pressure follows. The one, the vaso-motor, lessens the pressure; the other, the accommodation apparatus, augments it.

It is not improbable that the sympathetic exercises an influence over the vessels of the brain, although the point has not yet been definitely

proved. Fischer found that irritation of the cervical sympathetic increased the intracranial pressure. The trophic fibres of the cervical sympathetic are supposed to exert an influence on the glandular secretions and nutrition of the head; but whether this is due to special secretory fibres or to the vaso-motor system has not yet been positively determined, but most probably the former.

The cardiac sympathetic branches in the neck probably originate in the brain, and pass through the cervical and dorsal portions of the cord to the cervical ganglia, and from thence to the heart. They accelerate the cardiac action, in which function the vaso-motor branches possibly assist; but of the origin and source of these branches, as well as their function, we are comparatively still in the dark. Experiments on man, as far as they go, support the view that the function of the sympathetic in the human subject is the same as in the lower animals.

The thoracic and abdominal portions of the sympathetic have, as far as we know, the following varieties of branches.

1. Excito-motor to the thoracic and abdominal viscera. The movements of the heart, intestines, bladder, ureters, seminal vesicles, and uterus, are excited by irritation of the sympathetic; but it is still doubtful whether this takes place directly through stimulation of motor fibres, or reflexly through the sensory nerves of the different viscera.

2. Movement-controlling branches. These may be of two kinds, the controlling nerve proper which acts directly, and the reflex inhibitory nerve, which acts centripetally. The splanchnic is an example of the former, for, when irritated, it arrests the movements of the small intestines. The latter is instanced when the abdomen of a frog is tapped, and the heart's action is arrested, even when the vagi are divided.

3. Vaso-motor or secretory and trophic branches supply the vessels of the various viscera of the thorax, abdomen, and the lower limbs; and their functions are identical with those already described in the head and neck, and they have all probably a cerebral origin.

4. Sensory branches (acting reflexly). The sensory branches supplying the thoracic viscera are chiefly derived from the vagus; but those of the abdomen, with the exception of the stomach, are of sympathetic origin.

Under the pathological section of the work before us is discussed a variety of diseases which are certainly or probably connected with the sympathetic nervous system; and these are entered upon in considerable detail, with a view of pointing out that lesions hitherto unexplainable may be accounted for by affections of this department of the nervous apparatus. The relation is established by observations in two directions: 1. The presence of symptoms which resemble or are identical with physiological function; and 2, pathological changes in the sympathetic itself. The authors believe that this connection exists in a number of diseases which they consider in detail, among which may be mentioned hemicrania, glaucoma, progressive muscular atrophy, exophthalmic goitre, angina pectoris, Addison's disease, diabetes, epilepsy, etc. It will be observed that the above-mentioned diseases are those which have hitherto baffled all the efforts of pathologists to ascertain either a structural lesion, or to more than surmise a rational pathology; hence there is an ample field for speculation and plausible hypothesis. The relation here attempted to be established

between these affections and disorders of the sympathetic, is, in our opinion, more ingenious than practical; and, although we would not venture to assert that subsequent researches may not evidence some connection, we may safely maintain that up to the present time this has not been satisfactorily demonstrated. The disease in which perhaps the most convincing arguments are put forward as showing the association between the sympathetic and a definite disorder is hemicrania, and this may be cited as an illustration. This affection is maintained to be, not a neuralgia of peripheral nerves or of brain-substance, but the result of circulatory cerebral changes, induced through the influence of the sympathetic. One form described by Du Bois-Reymond, and called by him *hemicrania sympathicotonica*, is due to spasm and consequent contraction of the vessels of the brain, and is further accompanied by all the other physiological phenomena resulting from irritation of the sympathetic. The other form is called by Möllendorff *hemicrania neuroparalytica*, being the result of relaxation of the cerebral vessels, of arterial hyperæmia due to paralysis of the vaso-motor nerves. A hyperæmia produces the same effects as anæmia; the symptoms in each of these forms are identical. The first should in consequence be treated with nitrite of amyl, inhalation of carbonic acid, the constant current, and other agents which relax spasm. The second is best ameliorated with quinine, caffeine, ergot, etc., which irritate the sympathetic, and thereby contract the capillaries.

The work, therefore, before us is one which will be read with interest and profit. Dealing as it does with one of the most complex and hitherto almost mysterious systems of the animal economy, it is not surprising that, in addition to direct experimental inquiry, there is a large amount of speculation and hypothesis in the attempt to make these observations practically useful. The whole question is, however, still in its infancy; and doubtless further scientific researches will not fail to elucidate such truths as will throw light on many of the hitherto unknown functions of the healthy body, and will give an insight into the nature of diseases and abnormal states at the present time unexplained.

A. HUGHES BENNETT, M.D.

Chirurgie Oculaire. Par L. de WECKER. *Leçons Recueillies et Rédigées par le Dr. Masselon, Revisées par le Professeur.* Paris: Octave Doin. 1879.

The present volume forms the second and concluding portion of the author's *Thérapeutique Oculaire*, and consists of a series of twenty-five lectures, devoted exclusively to the consideration of questions appertaining to ophthalmic surgery. It is, perhaps, a matter of regret, if of necessity, that the work has been cast in its present form. The subject treated of is altogether too large to be satisfactorily handled within the compass of a few clinical lectures. But, unless a work such as the present claims to be deals exhaustively and thoroughly with its subject, it can have no logical *raison d'être*. Its title is an ambitious one, and, moreover, is not altogether justified by the performance. The book is more a series of ophthalmic essays—some of them, we admit, of a very high order—rather than a systematic treatise on ophthalmic surgery. By far the largest portion of it consists of descriptions of the author's own procedures and instruments. The work of his predecessors or contemporaries receives scanty, and

sometimes not very discriminating notice. From the preface, indeed, we learn that the work is mainly intended for practitioners of general medicine as opposed to specialists. But throughout the author assumes an amount of knowledge, and a power of critical discrimination on the part of his readers, such as only those of them who have devoted special attention to ophthalmology can fairly be supposed to possess. The mere student is left without a guide in the midst of a labyrinth of operations and methods of treatment. He must be content *jurare in verba magistris*, and either accept or reject procedures and statements, of the value of which he is afforded no means of judging. There is, moreover, a notable deficiency throughout of illustrative cases, which form so essential a part of all good oral teaching. To the specialist, such omissions are comparatively unimportant. He will know how to supply them, and also how to receive with due caution or even scepticism much of what the author apparently accepts with the confidence of unquestioning faith.

More than one-fourth of the whole book is devoted to a consideration of the various operations for the removal of an opaque lens. The lectures devoted to this portion of the subject are decidedly good. The historical review that prefaces them is accurate, concise, and well written. Ample justice we are pleased to see is at length done to Dairiel's brilliant and classical flap-operation, which, if we mistake not, is destined to play a more conspicuous part in the future than it has in the immediate past. Its merits are striking and peculiar to itself, while its weak points or defects are exactly those which the improved instruments, the use of eserine, and the antiseptic doctrines of modern times, are calculated to combat. We agree with the author when he holds that the largeness of the corneal section really tended more than anything else to establish the success of the flap-operation. A small section would undoubtedly have been fatal to it from the first.

The author describes at considerable length his own operation by a peripheral flap with iridectomy, comparing it with von Graefe's linear extraction. We dare say he is right in maintaining that of von Graefe's original operation, little now remains except the knife known by his name. Extreme linearity of section is no longer as of yore eagerly sought after, and probably the best operators in France and England are now content to make their sections fall on the sclerocorneal border. Von Graefe's great merit, however, as every one knows, consisted in that he was the first to state with clearness and precision the laws which underlie linearity of section combined with iridectomy, and that he thereby transformed an empiric method which had been already practised by Critchett and Mooren into a scientific one. De Wecker's own operation by no means attains to the dignity of a 'new method', in spite of the claim he puts forward to originality on the score of a corneal flap of 2 or 3 millimètres in depth, and an iridectomy 'in the form of a keyhole or a lighted bombshell'. It is a modification and, we admit, perhaps in some respects an improvement on his great master's method. The statistics which the author gives of his own operations are highly satisfactory, and show—as, indeed, many in this country have long known—that he is a most accomplished ophthalmic surgeon; but he must at the same time be perfectly aware how valueless statistics in the form in which he has quoted them are for all purposes of scientific comparison. When he says that he has had to chronicle not more than from two to

three per cent. of losses in many hundreds of operations, he is so far intelligible, and we gather that his cases have enjoyed a remarkable immunity from suppurative or other accidents. But when he goes on to say that he has obtained from 92 to 93 per cent. of 'complete successes', while he can show 'series of from 200 to 300 cases where the results were sensibly better' (p. 68), he simply conveys no information whatever to a critical reader. All of course hinges on what the author understands by 'completely successful' cases. We do not mean to throw any doubt on these statistics, if only because we have long known from personal knowledge the excellence of the results De Wecker obtains, and his brilliancy and success as an operator. It is exactly because we possess this knowledge that we regret the author has not been more explicit. His statistics as given in this work are practically meaningless, and, as he must himself be aware, are, from a scientific point of view, without value. The visual acuity eventually obtained should have been given in each group of cases, together with a notice of any complications which may have arisen on the side of the cornea, iris, or choroid. This omission is the more to be regretted, as the author's account of the after-treatment of cataract operation, and the various accidents which may mar a brilliant promise, is both complete and accurate, and contains many practical hints of great value.

With some few points in the author's teaching, as given in these lectures, we are unable altogether to agree. Thus, we cannot go with him in his wholesale condemnation of aspiration in soft cataract (p. 29). If performed with ordinary skill and judgment it is a proceeding singularly free from danger, and, in the hands of Bowman, Hulke, Teale, and others, has yielded excellent results. In many cases it effects an enormous saving of time where time is important, and, unless abused, has we believe, no tendency to induce iridochoroiditis. The author's suggestion of hastening absorption in these cases by means of hypodermic injections of pilocarpine, appear somewhat unpractical, and with children might even be dangerous. He teaches, moreover, that advancement of a muscle should be made independently, if possible, of section of its antagonist (p. 284). Such a method would, however, be generally available only in slight degrees of deformity, for which we venture to think simple tenotomy of the contracted muscle will long continue to be the easiest and most certain method of treatment. The operation which the author proposes and practises for trichiasis (p. 335) is somewhat clumsy and coarse, and decidedly inferior to that known as the method of Jaesch-Arlt. He does not, we think, quite do justice to Szymanowski's ingenious modification, which Arlt considers as one of the best of the class of operations to which it belongs. He endeavours without much success to show the superiority of von Graefe's knife in iridectomy over the common lance-shaped instrument. It is, however, not so much the knife as the hand which guides it that is important, and a careless or unskilful operator can do quite as much damage with one knife as with the other. If anything, except perhaps when the anterior chamber is very shallow, the common iridectomy knife is the easier of the two to wield, and certainly in skilled hands is capable of giving sections which are not to be surpassed for neatness and precision. We also cannot help remarking that the author in many places shows a morbid and, in his case, quite unnecessary anxiety on the subject of priority. We have already pointed

out that his combined operation is simply a modification of the procedures of Critchett and von Graefe. Tattooing he claims as peculiarly his own offspring, while acknowledging that his *chef de clinique* Dr. Abadie originally suggested it; he believes, however, that this gentleman would never have had either the courage or the opportunity of putting his own suggestion into practice (p. 182). Again, his remarks on Stilling's operation of stricturotomy are neither courteous nor generous. He alleges that any merit that there may be in the operation arises directly from what Stilling learned at his, De Wecker's, clinique, and he more than hints that the obligation has never been acknowledged. He finds fault with the name as being false in analogy, and with the operation as being neither original nor valuable. In all of these points we prefer to side with Stilling. In one point, however, we are willing to accord a certain claim of originality to the author of this book. He both teaches and practices enucleation without anaesthetics, at the same time, informing his readers that he believes the fourfold tenotomy and subsequent luxation of the eyeball must be intensely painful (p. 238, note). In this view few will care to differ from him.

We have made the above remarks not in any spirit of hypercriticism, or because we are insensible to the real merits of what is undoubtedly a very able work. It is precisely because it is so that we have felt obliged to point out what we consider its shortcomings. Anything from the pen of Dr. De Wecker addresses itself to a much larger audience than assembles in his private clinique, and possesses something more than a limited or passing interest. Taking the book as a whole, it is beyond doubt a very valuable contribution to ophthalmic surgery, and one which we think supplies a want which has long existed. We are not acquainted indeed with any work, either in the French or English languages, which covers exactly the same ground, or covers it so well. Its defects are, after all, more or less superficial; while its merits are peculiar and undoubted. The lectures on the iris, on sclerotomy, on diseases of the orbit, and especially of the lachrymal appendages, are simply excellent. Every page bristles with valuable precepts, the teachings of a life-long experience. Throughout the book we find many traces of a master's hand. It is a book which no specialist can afford to be without, and for which we venture to predict a wide range of popularity. We can heartily recommend it to our readers as one of the ablest and most original contributions that has of late years appeared on the subject of which it treats. The arrangement is good; the style lucid and thoroughly readable, while the text is illustrated, but not encumbered, with many excellent drawings from the hand of Dr. Masselon. There is also, we may add, an unusual immunity from those clerical errors as regards English and German proper names, which too often disfigure the pages of French works. The book, we may say in conclusion, is one which will undoubtedly add to the author's already high reputation as an accomplished ophthalmologist, and we shall not err in recommending it strongly to our readers, both general and special.

LITTON FORBES, M.D.

Nouvelles Leçons Cliniques sur les Maladies de la Peau, Professées à l'Hôpital Saint-Louis. Par M. LE DR. E. GUIBOUT. Paris, G. Masson. 1879.

This is a large book of nearly 1000 pages, well printed on good paper, readable in all parts, often suggestive, and sometimes diffuse. The subject of skin-diseases is divided somewhat arbitrarily, being treated of separately, as they affect childhood, adult life, and old age. M. Guibout rejects Bazin's doctrine of arthritism, but accepts that of herpetism. The book will well repay perusal, but will not become a classic. The author's pathological views are not in accordance with the latest knowledge in this department of medicine. G. THIN, M.D.

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TULLOCH'S PURE DUTCH COCOA.

Cocoa is a drink frequently tolerated by dyspeptics and invalids when tea and coffee are absolutely injurious; it is, therefore, important to know of forms of this nutritious beverage which are free from adulteration and agreeable to the palate. Amongst the best samples we unhesitatingly place Messrs. W. Tulloch and Son's Pure Dutch Cocoa as being remarkably keen in flavour, from the fact of its being unadulterated with flour or other farinaceous material. As a further consequence of the strength of the flavour of the pure cocoa-nib, a small quantity only of this cocoa is needed for the preparation of a breakfast cup or cups of the beverage, and it is, therefore, economical in use in relation to its quality. It is to be obtained of Messrs. W. Tulloch and Son, Bury Street, St. Mary Axe.

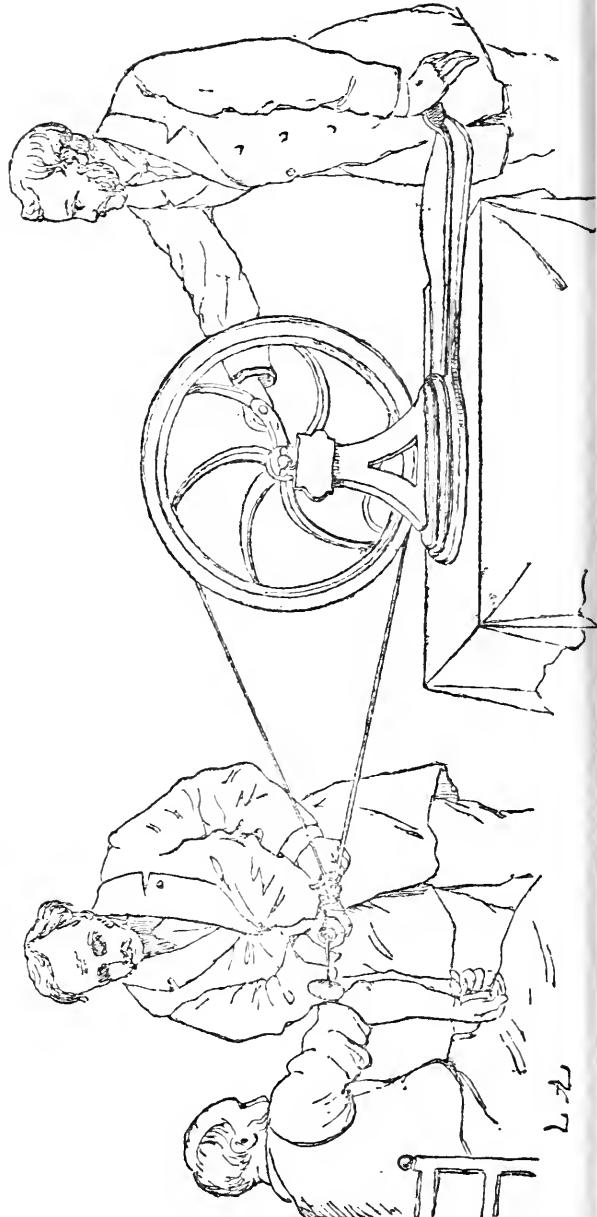
WOOLLAMS' NON-ARSENICAL WALL-PAPERS.

Much public attention has been directed by the medical press to the evil effects experienced from the use of arsenical pigments in colouring wall-papers, and numerous undoubted cases of arsenical poisoning from this cause have been recorded by physicians of European reputation. It is, therefore, very satisfactory to know that wall-papers of the best and most varied descriptions can now be procured which are guaranteed to be perfectly innocuous; vegetable pigments being used for the most part in their production. Messrs. Woollams and Co., of High Street, Marylebone, who have supplied this great want, have also consulted the prevalent taste of the day

in their choice of colours and designs, and have by no means sacrificed æsthetic beauty to sanitary necessity.

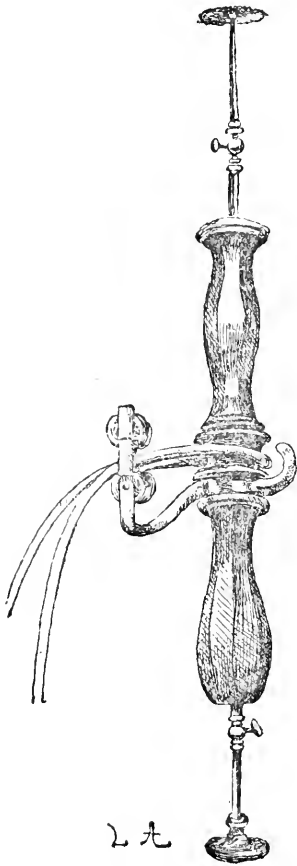
M. OLLIER'S MECHANICAL SAW.

M. Ollier has laid before the Paris Société de Chirurgie a resection saw, dividing the bones with great cleanness, and without concussion, just as certain tools cut wood into fretwork. It is a small circular



saw, put in motion by a large fly wheel, with which it is connected by an india-rubber strap. This apparatus therefore is really a machine. The operator holds in his hand a double wooden handle, and makes traction on the strap, to get himself into a proper position. He grasps the handles firmly with both hands, and places the saw on the parts he wishes to resect.

The saw, which revolves with great rapidity, divides the bone into lamellæ with marvellous facility. If osteoplastic flaps be required it cuts clean and without emptying the cells of their marrow, and without concussing the bone in any way. M. Ollier has used this instrument, which was constructed for him by M. Collin, the well-known Parisian instrument maker, frequently during the past year, and he has obtained excellent results with it. It is said by those who have witnessed the operation that it is wonderful to see M. Ollier manipulate this saw with his admirable certainty of hand on a bone which he cuts in every direction. Perforations of the bone are made with an hitherto unknown certainty. This handy machine admits of limitation of the sections, and of the preservation of the periosteum where it would otherwise have been cut. However, such a



machine could scarcely be required, except in a large hospital, and the idea of the disasters which might be caused by an aberration of the saw is alarming. The limb of a patient would be severed at a stroke, and the fingers of the assistants would share the same fate. An ill-timed movement of the patient, a moment's inattention on the part of the assistant, the slightest carelessness of the person whose duty it is to turn the wheel, and so throw the gearing into disorder, would not be less threatening. In practical use, therefore, this instrument ought to be so arranged as to ensure safety. It is, however, interesting to study it in all its details, as an evidence of the progress of surgical mechanism.

MISCELLANY.

HOW TO OBTAIN HEREDITARY TENDENCY TO DISEASE IN THE YOUNG.—Wash them, air them, and iron them.

THE ANTIQUITY OF CHEMICAL SCIENCE.—According to Mr. James Mactear, taking up the subject at the point where the science is usually supposed to have originated—in the Arabian School of Philosophy in the eighth century—the author showed that the science was of much more ancient origin, and traced its history back through the medical science of the Greeks, Russians, Egyptians, etc., to Indian sources, where in all probability it was known and cultivated as a science fully 2000 years B.C. The author also showed the unsatisfactory nature of the derivation of the name of the science from *Chem* or *Chemia*, as meaning dark, hidden, or black, or even *Dshem*, to find, as it has been explained by all previous authors on the subject, and stated that his own researches into the subject resulted in deriving the name indirectly from the word *Khams*, an Arabic word of Sanskrit origin, meaning fire, or rather from its compound *Khamis*, meaning the fifth. As is well known, the ancient Hindoos recognised five elementary types—water, fire, earth, air, and ether, the latter being the principle, or type, of active force or motion which caused the changes in the condition of the elementary types or their combinations. From a consideration of those and other facts the author derives the title of the science from *Al-Khamis* (the Fifth), meaning the science of force or change. No more perfect descriptive title could be found for it even in our present enlightened age.

EFFECTS OF HEAT IN THE COMSTOCK MINES.—Mr. John A. Church, in the *Scientific American*, November 1, 1879, gives some interesting facts bearing upon the lamentable effects of heat in the famous Comstock mines. During last May, fifty-three persons were killed outright and seventy wounded. Seventy-three per cent. of these accidents were due to the effects of labour in the hot and steaming atmosphere. From the peculiar mental effects of the heat, he regards it as highly probable that it may be the real cause of many mishaps which, under other circumstances, would be ascribed to culpable blundering. At a spot in one of the mines where the thermometer marked at times 128 deg. Fahr., one man fainted while at work. When taken to the surface and revived, he was found to have completely lost his memory. He could not tell his name or where he lived, and had to be dressed and taken home by his friends. This sudden loss of memory from heat is stated in the local papers to be of frequent occurrence. A frequent accident in these mines is fainting in the shaft whilst the cage is rising to the surface. The faintness is always felt immediately upon reaching the cooler air, a hundred or more feet from the surface, where there is usually a side draught through some adit. This happens so often that a man who has been working in a hot drift is never allowed to go up alone. Amongst the minor accidents is the following. Mr. Sutro, after spending some time in an air temperature of 110 deg. Fahr., went to the air pipe to get cool. He staid so long that the miners told him to get away from the pipe and let them have air. He did not move, and when they tried to stir him up with their shovels they found him unable to move. He had lost all volition and had to be taken out on a car. The graver results of overheating include insanity and death. Thus, a carman who had just returned from a lay off, after a few hours' work, rushed to the station reporting that the wheels of his car were smashed. The station master, on returning with him, found his car all right. There evidently being something wrong with the man, he was taken to a cooling place. Here decided mental aberration being discovered, the man was firmly lashed to the cage and hoisted to the surface, where he fainted at once, and died in a few moments. The miners resort to copious draughts of ice-water or to exposure to cold air-currents for recovery from overheating, and usually with impunity. It is to be re-

gretted that no exact study has been made of the phenomena that occur under the aforementioned conditions.

THE APOLLO BELVIDERE.—M. Broca, *apropos* of a previous communication, informed the Society of Anthropology of Paris, at its last meeting, that for a long time he had been in search of a skeleton which corresponded in proportions and outline to that of the statue of the Apollo Belvidere. He had discovered that a negro skeleton alone presents similar proportions. The Apollo Belvidere has in fact thoroughly negro limbs.

THE CHINESE IDEA OF DIET.—Dr. Dauphin W. Osgood, surgeon to the Medical Missionary Hospital, at Foochow, China, in his interesting report just published, says: 'The Chinese usually inquire, "What shall I eat?" and if we would gain their confidence it is well to give them careful dietetic directions, as the native doctors rarely neglect to give minute instruction in regard to food. I take a few directions from the *Golden Mirror*, a native work compiled by order of the Emperor Chien Lung, relating to diet. It is said that horseflesh may be eaten, if care is taken to avoid the part that has been covered by the saddle. The liver must not be eaten, as it will cause death unless the eater avails himself of the following receipt, which is published in the above-mentioned work. Take the excrement of a male rat, pulverise and dissolve it, and take internally as required. A white horse with a black head, if eaten, will cause insanity. Women who are pregnant are required to abstain from eating turtles, chickens, and ducks, for fear that their offspring will be deaf and dumb. It is to be feared that the child will have hare-lip if the mother eats rabbits. Pears are said to cause the ague, and onions, if eaten in the first month, will cause skin-diseases. Nearly all kinds of food are divided into three general classes, viz., hot, cold, and medium. Medicines are similarly divided, with the addition of two or three extra divisions. Diseases are also classed as hot and cold. The Chinese are gradually learning to use western medicines, and the demand for them will doubtless increase. The sales for the most part have been quinine, tincture of iron, carbolic acid, and santaline. The receipts from sales have amounted to 76.77 dollars. There is occasional inquiry for medical books. Dr. Hobson's works are somewhat behind the time, having been printed twenty years or more, but are liked by the Chinese. Dr. Kerr has done good service by translating a work upon chemistry, and is preparing a work upon *materia medica*, also one upon skin-disease.'

HEARTLESS INGRATITUDE.—The *Philadelphia Medical Times* quotes as an example of heartless ingratitude a case reported by Dr. L. Staton in the *Maryland Medical Journal*, vol. v, p. 391, in which he injected an ounce and a half of chicken's blood into the femoral artery of a man apparently dying from exhaustion after operation for stone. The result was that the patient went to sleep, and the foreign corpuscles filled his head with visions of chicken-broth. On waking, chicken-broth was lustily called for, and soon the 'identical old hen' yielded to the stomach of her foster-son whatsoever of flesh she had gathered in her five years of earthly pilgrimage. The patient recovered.

DELAYED SPECTACLES.—The French Ministry of War seems to be not much more prompt and accurate in its business arrangements than some of our own public departments. By a decision of the Ministry, dated the 12th March, 1877, spectacles were ordered for the use of the military hospitals, to be furnished to soldiers who, in accordance with that decision, were allowed to wear glasses. Certain trial boxes have, it seems, now arrived at one or two hospitals, more than two years after date. This delay, it seems, has been employed in going through the necessary formalities to supply orders to the manufacturers, and even now not all the regimental depots are supplied, and the spectacles now sent are only intended as temporary models for trial, the definitive model not being yet settled, until the results and experiments made with the provisional model are ascertained.

OUR UNSEEN ENEMIES.—Free progress has been made

recently in demonstrating the specific microscopic vegetable organisms or germs which are recognisable in certain cases, as the direct causes and immediate contagious particles which give rise to specific fevers by their entrance into the circulation and growth within the blood. It will be remembered that Obermeier proved pretty conclusively that relapsing fever was due to the entrance into the blood of a minute air-born vegetable organism, the spirilla-spirochaetes. Vandyke Carter in India has injected under the skin of monkeys defibrinated blood proceeding from patients suffering from relapsing fever, and which contained spirillae. On the sixth day the monkeys were attacked with violent fever, and the blood was filled with spirillae. Cohn, of Breslau, has further cultivated this spirilla in successful culture-fluids outside of the body, and reproduced feverish attacks with the third or fourth culture-fluid; just as Koch had already done with the specific vegetable organism which has been proved to be the cause of splenic disease in animals, *bacillus anthracis*. The spirilla develop itself in long spiriform filaments.

MOUND-BUILDERS.—Important archaeological discoveries have been made within the last few weeks in the United States, among the mounds of the Little Miami Valley, in the State of Ohio. Near the town of Madisonville an extensive aboriginal cemetery has been explored, which has disclosed many interesting facts in relation to the pre-historic mound-building race of that section. Thus far, the excavations have extended only over a limited portion of the burial-ground. Two hundred skeletons have been taken from the graves already opened, of which number, however, not more than forty or fifty crania could be preserved sufficiently well for measurement. An examination of the human bones revealed traces of rachitis and syphilis.

THE PHYSIOLOGICAL ACTION OF OZONISED AIR.—Since Professor Andrews some years ago determined the presence of ozone in the atmosphere, many attempts have been made to find out what connexion, if any, exists between the presence of ozone in large quantities in the air and the occurrence of epidemics of influenza and catarrh, and between the diminished quantity of ozone and the prevalence of epidemics of cholera. Experiments were also tried on the effects of ozone, artificially prepared, on living animals, deducing from the results the probable effects on human beings. In a very interesting paper on this subject by Professor Barlow of Glasgow, published in a recent number of the English *Journal of Anatomy and Physiology*, the chief results thus obtained are passed in review, and these indicate a good deal of difference in the opinions as to the effects produced by the breathing of ozone. Dr. Barlow repeated and modified most of the experiments, and in the same memoir gives us his results, the importance of which justifies the following epitome thereof. Ozone depresses the nervous system, probably by overcharging the blood with carbon-dioxide. It diminishes the normal respiration, and thereby diminishes the heart's action, these being probably caused by the ozone affecting the character of the mucous membrane of the lung. The alteration of this membrane by the ozone if it be present in large quantities, or if the air breathed with it contain a large quantity of carbon dioxide, may produce death from asphyxia within an hour. If the proportions be less, still death may be caused from bronchitis; and the inhalation of an atmosphere containing one part in 100 parts by weight of air for an hour may also cause death from bronchitis. There is no evidence to support the idea that ozone enters into the circulation. These results would seem to show that epidemics of catarrh (inflammation of the mucous membranes of the air-passages) may be caused by an excess of ozone in the atmosphere, but unfortunately the normal amount present in the atmosphere is not accurately known, and so it is impossible to say when the ozone is in excess. Professor Barlow suffered while performing his experiments from a very obstinate cold in his head, the affection becoming greatly aggravated on his snifing, however gently, the air charged with the ozone in small quantities.

The London Medical Record.

BAMBERGER ON BRIGHT'S DISEASE AND ITS RELATION TO OTHER DISEASES.*

BAMBERGER has collected materials from the *post mortem* room of the General Hospital at Vienna during the last twelve years, which show a movement of patients amounting to 250,000 cases, with 19,000 *post mortem* examinations, 2,430 cases with the anatomical diagnosis Bright's disease, excluding pure amyloid degeneration, simple congestive hyperemia, and cyanotic induration. The cases are anatomically described as acute Bright's disease, chronic Bright's disease, and atrophy of the kidneys from Bright's disease; but Bamberger points out at once that the anatomical nomenclature of acute Bright's disease does not correspond with the clinical. The division into interstitial and parenchymatous nephritis he does not attack in principle, but he differs from it on practical grounds, as numerous transformation forms and mixed forms exist; and he divides the whole series of cases into primary and secondary forms of Bright's disease, the latter depending on many deep-lying changes, which must properly be considered as causes and in no way as results of the affection of the kidneys.

The number of secondary cases amounts to 1,623. Compared with the other form, they more frequently show amyloid degeneration, and, in the acute form, more frequently, end in death. Their symptoms were almost regularly so concealed by the fundamental disease that they were not diagnosed at the time, but they progressed with the ordinary symptoms, and many times even on their side they masked the fundamental disorder. Hypertrophy of the heart was found in this form, after excluding valvular disease, emphysema, endarteritis, and aneurisms only in 3.3 per cent. The frequency of the relation to primary diseases is shown in the following table:

PRIMARY DISEASES.	Acute.	Chronic.	Atrophic.
Tubercle, phthisis, and scrofula	47	257	77
Valvular disease of the heart.....	19	117	36
Pregnancy and puerperal process.....	80	56	16
Diseases of the urinary-excretory organs..	11	72	51
Suppurative processes.....	42	77	10
Alcoholism and cirrhosis of the liver	16	68	33
Carcinoma	13	55	35
Emphysema of the lungs	6	51	28
Typhus	42	14	2
Syphilis	4	29	16
Scarlatina	13	—	—
Intermittent fever	1	9	3

It is to be remarked that, in many of the cases here recorded, it is certainly not a secondary form of Bright's disease which is to be dealt with. Bamberger himself points out that the advanced stage of Bright's disease in pregnancy and the puerperal process contradicts the assumption that it is a secondary form; and so in typhus and emphysema, which are frequently the sequels and not the causes of Bright's disease. Senator, who abstracts this lecture in the

Centralblatt für die Med. Wissensch., adds that the 257 cases of chronic disease and 77 cases of atrophic Bright's disease in phthisis could hardly all be secondary. The connection between the primary disease and the Bright's disease is established by toxic and infective processes, obstruction in the venous system, and of the urinary secretion.

To the primary form of Bright's disease, Bamberger assigns the remaining 807 cases, of which 67 are described as acute, 357 as chronic, 383 as atrophic. It does not appear from the figures that this form is more frequent in men than in women. Cerebral hæmorrhage occurred in 82 cases (2 acute, 29 chronic, 52 atrophic) not always combined with hypertrophy of the heart or endarteritic processes; inflammation of the brain-substance in 28 cases, of the membranes of the brain in 10 cases, pneumonia (mostly croupal) in 163, recent pleurisy in 57, dysentery and extensive catarrh of the intestines in 109, general dropsy in 215 (33 each in the acute and chronic forms of Bright's disease, only 19 per cent. in the atrophic form). Pericarditis occurred 91 times; in acute Bright's disease twice, in chronic 30, in atrophic 55 (four cases not accounted for); endocarditis in 31, myocarditis in 5. Hypertrophy of the heart is noted 344 times, never in the right heart alone, 175 times in the left heart alone. Excentric hypertrophy of the whole heart, always with more considerable participation of the left half occurred 142 times (3 acute, 51 chronic, 88 atrophic); the right hypertrophy is frequently explained by the coincident emphysema. Excentric hypertrophy was found on the left side only 107 times (4 acute, 38 chronic, 65 atrophic); simple hypertrophy 76 times (4 acute, 27 chronic, 45 atrophic); in 65 the left side only was affected. Dilatation without hypertrophy occurred 19 times, the left side being affected in 3 cases only. Bamberger, after criticising the opinions held by others as to the causes of hypertrophy of the heart, accepts as its cause an increase of the mass of blood due to the diminished excretion of water through the kidneys. Even in primary cirrhosis of the kidneys a latent stage must be assumed, with diminished elimination of urine, on account of what is found anatomically, and because, according to Bamberger, it would be inexplicable whence the organism derives the excess of water under which it suffers, if it had not previously collected it. The pressure increasing with the mass of blood causes the left-sided hypertrophy; more blood also, and under greater pressure, passes into the venous system, first causing a dilatation of that system, but finally leading also to dilatation and hypertrophy of the right heart. Simple hypertrophy must, according to Bamberger, always be accompanied by dilatation; but, as the mass of blood in the course of the disease may again become considerably diminished, the dilatation may in the same proportion disappear, whilst the hypertrophy must necessarily continue.

BERTHOLD, PICOT, LAQUER, SKODA, AND OTHERS, ON THE RELIEF OF DYSPNŒA BY QUEBRACHO BARK.*

QUEBRACHO bark in various forms has recently

* 1. Ueber Quebracho. Von A. Berthold. (*Berliner Klinische Wochenschrift*, 1880, No. 52.)—2. Zur Wirkung der Cortex Quebracho. Von F. Picot. (*Ibid.*)—3. Zur Therapie. Würdigung des Quebracho. Von L. Laquer. (Krankenhausabtheilung des Prof. Berger) *Breslauer Ärztlich Zeitschrift*, No. 24, 1879.

* Volkmann's *Samml. Klin. Vorträge*, 1879, No. 174.

come into considerable use in Germany, and is being very warmly recommended as a remedial agent in relieving the dyspnoea of convulsive asthma.

Berthold states that he has used it in the case of an old man, aged 65, who suffered most severely from convulsive asthma; a teaspoonful of the tincture of quebracho was administered every hour. In the first hour, there was a diminution in the frequency of breathing, from 64 to 60; in the third hour to 30, with a very considerable improvement in the symptoms; next morning, the patient felt quite well. A series of other observations are given, in which this remedy proved itself of palliative value; in a few, however, without effect. Considerable improvement followed the use of quebracho in a patient who had suffered for several years from emphysema of the lungs. It worked also very effectually in relieving dyspnoea in the case of mitral insufficiency in a female, aged 60, and in two cases of fatty degeneration of the heart in a man, aged 72, and a woman, aged 68; in the case of a man suffering from exudative pleuritis, as well as in that of a man, aged 72, suffering from chronic catarrh of the lungs, it had no effect. In six cases of phthisis, considerable improvement after using this remedy was observed in two only. Disagreeable results were not observed in any case. The spirituous extract of quebracho is also praised by the author as a very valuable remedy against diarrhoea.

Picot observed, in three cases, diminution of hurried respiration, and subjective improvement of the condition. Picot made a research on himself, in which on three successive days he ascended the same mountain under like conditions of temperature and barometric pressure. Before starting, his respiration was 16 and his pulse 64. On the first day, without quebracho, on ascending a tolerably stiff mountain, his respiration rose to 42, and his pulse to 94, with an unpleasant sensation of shortness of breath. On the second day, Picot took, half an hour before starting, a quantity of quebracho powder equal to about 15 grammes of the tincture; his respiration rose during the ascent to 30, his pulse to 80; he breathed with much greater facility, and was able even to smoke during the ascent, which on the first day was quite impossible. On the third day he repeated the ascent without quebracho, and the symptoms were the same as on the first day.

Dr. Laquer reports that this medicine had been employed in the hospital wards of Professor Berger under his notice for twenty-two patients suffering from greater or less severe dyspnoea. The form and dose were as follows: Extract of bark of quebracho, 12 grammes; mucilage, 40; distilled water, 200; take three times a day from one to two teaspoonfuls. The conclusions at which Laquer arrived are as follows. 1. Quebracho appears in many cases to be a valuable palliative remedy against difficulties of breathing in pulmonary emphysema and chronic bronchitis; in other cases, on the other hand, the remedy is found to have no effect, especially in aged individuals. In the dyspnoea depending upon diseases of the valves of the heart, its value appears at least doubtful. 2. In the continuous use of this remedy, a series of unpleasant effects are found which render its prolonged administration difficult. These collateral effects, according to Laquer's observation, consist in headache, dulness of the sensorium, giddiness, copious salivation; moreover, in most patients, after a comparatively short time, a considerable disgust for the remedy occurs. The frequency of respiration is the more certainly remedied in

proportion as the condition is acute and beyond the normal state. This remedy shows no constant influence on the character of the pulse.

In a notice of quebracho in the *Wiener Med. Blätter*, No. 41, 1879, it is reported that Professor Skoda ascribes the improvement of his previous temporary attacks of dyspnoea to the use of quebracho, and employs it in suitable cases in his private practice.

Dr. J. Krauth, in Betz's *Memorabilien*, No. 11, 1879, reports also on quebracho in the following words. The cases which have recommended themselves for treatment by this method were two cases of hypertrophy of the heart in the last stages, with dropsical exudation in the cavity and general oedema, acute dyspnoea, and great weakness; three cases of Bright's disease after scarlet fever; one case of tuberculosis with emphysema and dyspnoea; and one case of penetrating wound of the lung, with bloody or serous exudation in the pleura. All these cases were treated with watery extract of quebracho, 5 grammes with 25 of distilled water; and the rapid relief of the breathing was so striking, the dyspnoea disappeared so quickly, giving place to ease and peaceful respiration, that he cannot refrain from encouraging his colleagues to the employment of the remedy. Though tuberculosis and weakness of the heart may not be cured, still the relief which one can afford to many suffering patients is a great satisfaction and advantage to them and to the practitioner. Dr. Krauth states that he has employed the watery extract of quebracho, prepared for him by a local druggist, on each occasion; either the watery solution in a proportion of 1 to 25, or an alcoholic tincture of 1 to 10, one teaspoonful every three hours.

TILLMANNS ON WOUNDS OF THE LIVER AND KIDNEYS.

DR. H. TILLMANNS has published in Virchow's *Archiv* (Band lxxviii) a report of experimental and anatomical researches on wounds of the liver and kidneys. The essay consists of two parts; the first dealing with the dangers from hæmorrhage in cases of injuries of the liver and kidney, and the second with the finer anatomical details of the healing of wounds treated antiseptically.

In investigating the first point, the abdominal cavities of rabbits were opened, with antiseptic precautions, and one or more wedge-shaped portions were cut out from the liver or kidney. No attempt was made to arrest the hæmorrhage, the wound in the abdominal walls being at once stitched up. In twelve animals portions of liver were thus removed, and, in nine, portions of the kidneys. Of these, none died. The bleeding from the liver was found to be very slight; thus, when the abdominal cavity was examined twenty-four hours after the removal of from two to four wedge-shaped portions (2½ centimètres in length and 1 centimètre in thickness) of liver, the wound was found filled up with blood, but there was rarely a trace of blood in the abdominal cavity. The healing of these injuries was complete in five to ten days. In the case of the kidney, the hæmorrhage was much more severe, but, nevertheless, no animal died, and here also healing was perfect in five to twelve days. In man, Tillmanns has likewise observed that the hæmorrhage from wounds of these organs is but slight, unless some large vessel be injured.

The question to be determined with regard to the

healing of these wounds was, whether the leucocytes or the special cells of the liver or kidney, or the fixed connective tissue cells, played the chief part in the healing process.

The possibility of any participation in this process by the special cells was completely shut out by the following method. Portions of the liver, kidney, spleen and lungs of rabbits were removed and kept in absolute alcohol for two or three weeks. Wedge-shaped portions were cut out of these. They were then washed in 2½ per cent. watery solution of carbolic acid, and introduced, with antiseptic precautions, into the abdominal cavity of rabbits. Twenty animals were experimented on in this manner, and, of these, two died.

When examined twenty-four hours after their insertion, the defects in these portions of dead tissue are generally to be found completely filled up with a glutinous mass, which is seen, on microscopic examination, to consist of white blood-corpuscles. These also completely surround the dead tissue, and cause slight adhesion of it to some part of the abdominal wall or contents. One or two days later the migration of the corpuscles has become more marked; they have penetrated in all directions into the dead tissue, following, as a rule, the spaces of the cellular tissue; at the same time, in the older parts, formation of blood-vessels and connective tissue can be observed. If the infiltration of the dead tissue with these corpuscles goes on rapidly, the former soon disappears, leaving only a small thickened spot behind. In one or two cases, however, it became converted into a cheesy mass, owing, as Tillmanns supposes, to too rapid infiltration with cells.

Examined more carefully, the cells next the dead tissue are seen even after twenty-four hours to be spindle-shaped, and, in two or three days, vessels are present both in the defect and also over the whole surface of the dead tissue. At the same time, the colourless corpuscles are seen to increase in volume, their protoplasm then splitting up into fibrillæ, while the nucleus remains with a small quantity of protoplasm around it. In other parts the corpuscles seem to melt together, and large granular multinucleated masses are thus formed. Tillmanns looks on these giant-cells as merely masses of formative material which may develop to connective tissue or blood-vessels, or may undergo degeneration. The vessels are formed by processes starting from previously existing vessels. These offshoots are at first solid, consisting of white corpuscles, which have become massed together outside the wall of the vessel. They send out smaller branches which anastomose with each other, and with processes from the large formative cells previously mentioned. These various offshoots ultimately become hollow, and communicate with the vessels. Tillmanns denies that these processes proceed from cells forming the walls of the vessels, as was previously supposed.

As to the origin of these cells, he considers that they are white blood-corpuscles; at the same time, he admits that these experiments do not absolutely prove that the fixed connective tissue cells do not take part in the process. To see if this is the case or not, he enclosed the piece of dead tissue in a glass case having two lateral holes, and introduced this into the abdomen. Here also the tissue became infiltrated, and the glass case surrounded by similar cells, which he, therefore, regards as white blood-

corpuscles. The special liver and kidney cells take no part in the healing process.

Similar results were obtained when the healing of the injuries to the liver and kidneys was investigated. Here also the same migration of leucocytes, the same large irregular formative cells, the same processes of fibrillation and vascularisation, were observed. The special hepatic and renal cells were quite passive, and underwent fatty degeneration in the neighbourhood of the wound.

Exactly the same observations were made on portions of catgut introduced into the abdominal cavity, and Tillmanns concludes that the same process occurs in the removal of silken ligatures, of the pedicle in ovariectomy, and of dead bone. In the case of the latter, he supposes that the carbonic acid in the blood dissolves the earthy salts, leaving the animal basis to be served in the same manner as the catgut.

W. WATSON CHEYNE.

LANGENBECK ON EXTIRPATION OF THE PHARYNX.

IN the current number of the *Archiv für Klinische Chirurgie*, Professor von Langenbeck submits to the notice of the profession an operation for the extirpation of the pharynx, and relates the histories of three cases in which he had resorted to it for the removal of cancerous growths in that cavity.

Although these three cases were unsuccessful in his hands, he thinks the operation worthy the attention of surgeons, as the fatal terminations were due to the ill effects which the removal of the pharynx exercised upon the larynx, rather than to the operative procedure itself. The operation, when conducted according to the rules laid down, is entirely devoid of danger, and can be performed without much difficulty. It is not intended to take the place of the various operations which have hitherto been resorted to for the removal of tumours in the upper part of the pharynx and naso-pharynx, but is proposed for the extirpation of those growths, which, from their situation in the lower part of the pharynx, have been hitherto considered beyond the reach of surgery.

As regards the diagnosis of these growths, Dr. von Langenbeck points out that when they affect either of the lateral walls of the pharynx, they produce a distinct swelling in the upper part of the side of the neck, pressing the larynx to the opposite side, so that the pomum Adami is no longer in the middle line. If the tumour be situated in the front or hinder wall, the larynx will be pushed forward, and, in extreme cases, the pomum Adami will project on a level with the chin. If the pharynx only be affected, the voice is muffled, the patient speaks as if he had a lump in his throat, deglutition is more or less impeded, but respiration is not affected. If the carcinoma extend into the larynx (which is very rarely the case), involving the ary-epiglottidean folds or the vocal cords, hoarseness, aphonia, and stridulous respiration, may be expected; but the extreme dyspnoea present in primary carcinoma of the larynx does not occur; at least, it was not a symptom in any of the cases which Dr. von Langenbeck had observed. When the carcinoma affects the lateral walls, it is apt to involve the great vessels at an early period. This happened in one of Dr. von Langenbeck's cases, in which, to avoid wounding the vessels, a thin layer of the tumour had to be left adherent to them.

The entire extirpation of the pharynx without the simultaneous removal of the larynx is quite possible,

on account of its loose attachment to the neighbouring parts. The front wall, although it closely follows the contour of the posterior part of the larynx, is so loosely connected with it that its separation from it, as far as the entrance into the larynx, can be readily accomplished without wounding the perichondrium. Still less firmly is the posterior wall attached to the front of the vertebral column; and when it has been cut transversely on a level with the lower edge of the soft palate, it can be easily separated from the prevertebral muscles by means of a blunt instrument. Laterally, also, the pharynx, except at the points of attachment of its muscles, is only connected with the large vessels and other structures external to it by loose connective tissue.

The operation is performed in the following manner. After the trachea has been opened and plugged with Trendelenburg's tampon-cannula, the patient's head is drawn well back, and the face turned to the side opposite to that on which the operation is to be performed. An incision is commenced below the lower jaw, midway between the symphysis and the angle, and is carried over the greater cornu of the hyoid bone in the direction of the sterno-hyoid muscle, terminating just above the tracheal wound. The skin, superficial fascia, platysma, and omohyoid are divided, the posterior belly of the digastricus and the stylo-hyoid are detached from the hyoid bone, the lingual and superior thyroid arteries and the facial artery and vein are divided and tied, and the superior laryngeal nerve and its external laryngeal branch are divided. The pharynx is now opened; the larynx is firmly drawn to the opposite side, and at the same time made to revolve on its long axis, so that its hinder surface is well exposed. The front and side walls of the pharynx are detached from their connections, and the posterior wall is cut through transversely at a level with the lower edge of the soft palate, and separated from the vertebral column. The pharynx is then finally removed by severing its connection with the œsophagus.

The question now arises, if the operation in itself is so free from risk, and easy of accomplishment, what is the cause of the fatality which has hitherto attended it? Putting aside the second case, in which the patient, greatly exhausted by his inability to swallow food, and by the unavoidable capillary hæmorrhage during the operation, succumbed a few hours afterwards, the great danger would seem to be inflammation of the lungs set up by the entrance of saliva, secretion from the wound, or vomited matter, into the air-passages.

Whether the entrance of foreign bodies may be attributed to the paralysis of the mucous membrane consequent upon the unavoidable division of the superior laryngeal nerve is a moot question, as portions of the larynx in two of the cases (the arytenoid and a portion of the cricoid cartilage in one, the arytenoid and a portion of the right vocal cord in another) were removed at the same time. Dr. von Langenbeck has moreover seen this nerve divided in other operations, but has not found its division followed by the same untoward results.

Looking to the cause of the failure of the operation, it seems questionable whether it would not have been better to remove the whole larynx. In the case in which the tampon-cannula was kept in after the operation, the patient unfortunately died in a few hours. It therefore remains uncertain what influence the retention of this cannula might have had in guarding the air-passages from the entrance of foreign matter, and whether the larynx

might not subsequently have so far recovered its functions as to prevent foreign matter from passing into it.

The first case in which the operation was performed was that of a man 48 years old. The growth involved the right half of the pharynx and larynx, extending as high as the hyoid bone, and as low as the false vocal cords, while posteriorly it reached to the vertebral column. After the removal of the growth, together with the pharynx, the right arytenoid and part of the right half of the thyroid cartilage, the upper portion of the wound was closed with five sutures, and a drainage-tube introduced into the lower. The tampon-cannula was taken out, and replaced by an ordinary one. The patient was fed by a tube introduced through the mouth. He survived the operation three days, and appeared to have died of pneumonia and gangrene of the lung, from the escape of the saliva and secretion of the wound into the air-passages. A *post mortem* examination was not allowed.

The second patient was a man 58 years old. Here the whole pharynx with the upper part of the œsophagus was removed, and a small portion of the inferior cornu of the left thyroid cartilage. The cut end of the œsophagus was sewn to the wound in the skin, and a soft India-rubber tube introduced into it. The upper portion of the wound was secured by sutures, the lower left open. The tampon-cannula was left in the trachea. The patient died the same night of exhaustion.

In the third case, the patient was a woman, 52 years old. The growth was of the size of a walnut, and had invaded the whole right half of the front wall of the pharynx, the right arytenoid cartilage, and a portion of the cricoid. These parts were cut away with the growth. The wound was left open. The patient was fed by a tube at times through the mouth, at times through the wound. On several occasions, the administration of food was followed by vomiting. Portions of the food thus rejected, escaping into the air-passages, produced pneumonia and bronchitis, of which the patient died on the eighth day after the operation. At the *post mortem* examination, the right cornu of the hyoid bone was found bared of periosteum, as was also the hinder portion of the right ala of the thyroid cartilage.

W. J. WALSHAM.

HUETER ON A NEW INSTRUMENT FOR OBSERVING THE BLOOD-CORPUSCLES IN THE VESSELS OF THE LIP.*

AFTER considerable and continuous investigation, Professor Hueter finds that it is possible, by the aid of a suitably arranged microscope, to examine the blood-vessels of the mucous membrane of the inner surface of the lower lip, in such a manner as to see the blood-corpuscles passing through them, and to observe the course and changes in the circulation.

The instrument which he employs for the purpose is made by Weinberg, of Greifswald, and includes an arrangement for fixing the head, not unlike in principle that which is used by photographers, and a microscope with an excellent objective of about 14 millimètres focal distance, and a No. 4 ocular, by Zeiss of Jena. This combination magnifies about fifty-two times, which is sufficient for most of the

* Republished from the *Centralblatt für die Medicinische Wissenschaften*, 1879, Nos. 13, 14.

problems of what he calls by the self-explaining name of cheiloangioscopy.* It is too troublesome to attempt to employ one's own microscope, and Hueter specially recommends the employment of the whole of the arrangement which Weinberg prepares.

The lip is fixed by a mechanism like forceps, attached near the angle of the mouth on each side. Clear daylight, or a gas flame, condensed in either case through a powerful convex lens, is sufficient. At first it is difficult to recognise the blood-stream, and Hueter advises that for the first inquiries scrofulous children, of the age from about 12 to 18 years, with diseases of bones or joints attended with supuration, should be selected. The thinness of the mucous membrane, the pathological slackening of the circulation, and the numerous white blood-corpuscles which give a mixed red and white colour to the stream of blood, greatly facilitate the recognition of what lies under the eye. For the moistening of the everted mucous surface, it is enough to pass a pencil across it, and thus to distribute the drops of mucus which stand out from the mucous glands. The first thing that is seen is the very pretty show of branched capillaries, arteries, and veins, looking as though the whole were an injected plexus of vessels of mucous membrane in a dead preparation. When, however, a well-illuminated superficial vessel is selected for careful observation, the eye perceives the stream of blood, and observes the movements of fine points which it recognises as the red blood-corpuscles. The white blood-corpuscles are seen as round white spots in the red stream. The little pearl-like blood-corpuscles are very pretty when recognised in the spirally winding capillaries which are nearest the surface of the mucous membrane. The larger and deeper-lying veins have a straighter course, and in them also may be seen, but more dimly, as through a veil, the white blood-corpuscles forming clear spots in the red stream. The circulation in the capillaries of the under lip of man takes place more slowly than in the capillaries of the third eyelid of rabbits and dogs, described by Hueter in the *Centralblatt für Chirurgie*, vol. vii, p. 115. This may be due to the narrowness of the capillaries and their winding course. In the larger veins the stream is, on the contrary, equal and rapid. The little openings of the mucous glands are also seen, surrounded by a coronet of blood-vessels, and generally filled with a single fine drop of mucus. When the light falls very obliquely, the flat epithelium with its sharp angular outlines and the brightly glistening nuclei in the single cells may be discerned. Where the epithelium is very distinct, the recognition of the blood-vessels is difficult, and the observation of the blood-stream is impossible. On the other hand, in the central parts of the mucous membrane of the lip, where the circulation is clear, the epithelial cells are not seen.

Hueter considers that important physiological and pathological truths as to the disorders of circulation in fever, poisoning, etc., may be helped to solution by this method of observation. With the aid of the fenestrated forceps used by ophthalmic surgeons in the removal of tumours from the eyelid, one blade of which is a flat tablet, and the other a corresponding ring, it is easy to produce and to observe the phenomena of venous congestion, without causing any pain of importance to the subject of the

experiment. When the forceps is applied, and gradually closed, one readily observes a pretty complete blocking of all the blood-vessels with blood, the veins being more quickly obstructed than the arteries. A much larger number of capillaries come into view than in the physiological state of the circulation; and Hueter believes from this and from similar observations on the skin of the frog's abdomen (*Deutsche Zeitschrift für Chir.*, vol. iv, p. 332) that a number of capillaries exist in both cases, which in the normal state of the circulation are only filled with plasma or not filled at all, and only temporarily allow single blood-corpuscles to pass through them. It is only when the blood-stream is obstructed that they become filled with red corpuscles. He calls them plasmatic capillaries, and considers that they may be important for the normal nutrition of the tissues as well as for pathological formation of vessels. The asphyctic change of colour in the blood by an accumulation of carbonic acid may also be clearly seen. The colour in the blood-vessels changes from clear red to violet red. The red blood-corpuscles do not lie close together, but between them are, occasionally, clear spaces corresponding to the plasma, so that a somewhat speckled appearance is produced. Immediately after the forceps is relaxed, the whole circulation is resumed. The vessels, in consequence of vasomotor paralysis, become very much dilated, and the increased mass of blood in the lip makes the picture of the circulation very obscure, especially as the blood now streams very rapidly through the dilated vessels. In about ten minutes everything returns to its normal state.

A very elegant research can be made by the application of pieces of ice to the mucous membrane of the lip. The blood may be seen to stand still in the capillaries, probably in consequence of the contraction of the smallest arteries; but after a few seconds the circulation is restored to the normal state. The attempt to produce blood-stasis by chemical irritants, such as ammonia, chloroform, carbolic acid, and strong solutions of common salt, is attended with the inconvenience of clouding the epithelial cells, either by coagulating albumen or by causing watery effusion. Hueter recommends glycerine as the best agent. If the lip be dried, and a drop of glycerine be applied to the mucous membrane, in about ten seconds the red corpuscles are seen to become lightly packed together, and in consequence irregularity of the current follows without permanent stasis, and in a few seconds the phenomenon is over.

Hueter especially recommends the application of this mode of observation in cases of septic fever and other febrile disorders, which, however, he has had but few opportunities of observing. The few cases, however, which he has examined by cheiloangioscopy confirmed what he had previously observed on the third eyelid of dogs and rabbits (*Centralblatt*, 1878, No. 29). It is not easy to observe here a complete capillary stasis, on account of the imperfect transparency of the tissues; but in febrile conditions in man the agglomeration of the red corpuscles can be distinctly seen, with the curious spectacle of momentary stoppage of the blood-stream, alternating with sudden acceleration of the little masses, and afterwards the freeing of the blood-stream. Hueter thinks that interesting researches on the changes of the red blood-corpuscles and the disturbances of the capillary circulation, as related to the causation of septic fever, may be made by this method.

* From *χείλος*, the lip; *ἀγγεῖον*, a vessel; and *σκοπέω*, I view.

The general disturbances produced by chronic suppuration may also be investigated in this way; and for this purpose Dr. Hueter has availed himself of the large number of cases of scrofulous suppuration of the bones and joints in his clinic. In these cases, an increase of the number of white blood-corpuscles in the circulating blood may be regularly ascertained. The white blood-corpuscles appear evident only as clear circular spots in the red stream; but that is enough to show their increased number. In the larger veins, also, which usually appear only as violet bands through the mucous membrane, a large number of white spots in the red stream can be recognised in scrofulous children in whom suppuration is taking place. In the fine vessels, temporary obstructions of the circulation may be seen as described in septic fever, but with the difference that here not much is seen of the packing of the red-corpuscles, and the white-corpuscles appear to be the principal cause of the disorders of the circulation. By comparison with the temperature changes, it may be observed that here also fever goes hand in hand with disturbances of the circulation, and, with the falling of the fever, the circulation returns also to its normal state.

The soft lips of scrofulous children are especially suited for cheiloangioscopy; and, for those who are commencing the use of the method and find a difficulty in examining the relatively thicker mucous membrane of healthy adults, Hueter recommends that they should begin by studying the circulation in scrofulous children. He mentions, further, a case of diphtheritis followed by paresis of the lower limbs, with occasional severe headache, which showed a singular change in the vessels. The circulation was rapid and regular, but there was a peculiar, sometimes spindle-shaped, sometimes cylindrical, dilatation in many small veins of the mucous membrane, just where the capillaries passed into the veins. There was, probably here, a kind of vaso-motor paralysis of the walls of the vessels.

He closes this summary by expressing the hope that his colleagues will remember that this method of research requires some little practice before it can become clinically useful.

KAHLER AND PICK ON THE PATHOLOGY OF THE CENTRAL NERVOUS SYSTEM.

O. KAHLER and A. PICK publish a series of contributions to the pathology and pathological anatomy of the central nervous system in the *Prager Vierteljahrsschrift*, new series, 1879, pp. 1 and 2. The first is a contribution to the localisation of functions in the brain. According to Wernicke, the central end of the auditory nerve and, with special reference to aphasia, the centre of formation of sounds, are to be placed in the first temporal convolution; and lesion of the same must be considered the fundamental cause of deafness for words (Kussmaul). The authors communicate the following case in evidence. A woman, 42 years of age, suffering from aphasia, who could utter but very few intelligible sounds, but who presented no signs of paralysis in the extremities, could hear, but without understanding what was said to her. She had to be guided for the simplest offices by the nurse, as oral directions were unintelligible to her. On making a *post mortem* examination, the convolution of the left temporal lobe appeared soft and gelatinous, as did the posterior half of the third frontal convolution.

The right temporal lobe was also softened to a smaller extent. A second case was that of a drunkard, aged 37, who was paralysed on the right side, aphasic, and deaf to words, though he heard plainly. A hæmorrhagic pachymeningitis, chiefly on the left side, had compressed the whole brain, especially the middle and third frontal convolution, almost the whole temporal lobe, and the lateral portions of the parietal and occipital lobes. As to those cases recorded in which, in spite of affection of the temporal lobes being shown afterwards, no trace of word-deafness was observed, there was (according to the authors) in every case a sufficient lapse of time for the recovery of the possibly lost power of understanding words. In connection with this, the authors mention, with regard to the first case (in which during life no lesion of the nutrition or of the motor power of the extremities was shown), the actual presence of a myelitic focus in the spinal cord in the left anterior cornu of the lumbar region, by which, besides the local changes, asymmetry of the whole cord was produced. This shows the necessity of care in investigating such cases of asymmetry, and of not omitting to make a thorough search for the presence of some myelitic focus, however small, in the spinal cord.

In the second section, an interesting case of word-deafness (*Worttaubheit*) is communicated; that of a man, aged 55, who was suffering from atactic aphasia, word-deafness, agraphia, partial ataxy, slight loss of power in the joints, and loss of musical memory.

The third section treats of the localisation of motor-phenomena after hemiplegia. The authors observed in a man, aged 60, about six months after an apoplectic attack, which caused paralysis and complete anæsthesia of the right half of the body (including the sense-organs), purposeless movements of the finger and hand on the paralysed right side. Later on, twitchings and violent swinging of the right arm and uncontrolled movements of the toes set in. These movements ceased during sleep, but the hand always assumed a peculiar position (super-extension and abduction of single fingers). At the posterior end of the left corpus striatum, an opening led into an apoplectic cyst as large as a farthing. The same was found in the external part of the optic thalamus, and it sent a prolongation outwards through the inner capsule. On vertical section through the middle of the thalamus, the apoplectic cicatrix was seen in the outer half of the thalamus, and extended as a reddish-brown coloration through the whole breadth of the inner capsule to the nucleus lenticularis. This place lay immediately behind and bounding that which, according to Flechsig, contains the compact bundle of the fibres of the pyramids. A partial secondary degeneration was found in the right lateral column of the cord. The authors consider the lesion of the compact bundle of the fibres of the pyramids, which ascends between the optic thalamus and the posterior part of the nucleus lenticularis, to have been the cause of the pathological appearances; but that it is also possible that lesions of the fibres of the pyramids in other places (as the inner part of the capsule) may be followed by the same, or similar results.

The fourth section is on ataxy, and ataxy after acute diseases. A case of cerebral ataxy is interesting, showing that circumscribed disease of the motor tracts of the cortical substance of the brain may cause crossed ataxy. It was that of a woman suffering from tuberculosis, who first experienced a feeling in

the right hand and arm as if ants were running over it; and soon after this a difficulty in using the limb. Though the sensibility of the skin was unimpaired, all sense of the position of the limb in space was lost. Later on, headache, aphasia, and paralysis of the right side set in. After death, along with tubercular meningitis of the base, a flat cheesy tumour was found in the posterior part of the left frontal lobe, and a second smaller one on the parietal lobe. Similar results have been described by Bernhardt, Gelpke, Fritsch, Hitzig, and Nothnagel, in their experiments upon excision of the cortical substance of the brain; and recently by Munk. As the authors (like Friedrich) believe that the destruction of co-ordination of movement is to be referred to lesions of the cortical substance of the cerebrum, cerebellum, medulla oblongata, or spinal cord, there remain a series of cases of ataxy, which until now have wanted any distinct anatomical proof of the place of the lesion in the cerebro-spinal system. These are the cases of acute or functional ataxy after acute illness. The authors group the recorded cases and some new ones under three heads:—1. Cases with more or less rapid recovery; 2. Cases ending in chronic incurable disease; 3. Cases rapidly leading to death. To the first group belong cases of acute ataxy after intermittent fever (communicated by the authors), pneumonia, erysipelas of the face, scarlatina, measles, typhus, and diphtheria. Most probably, in all these cases, there is a wide-spread pathological process independent of the nerves, which can only, in a few cases, be more accurately localised, as by absence of the patellar tendon-reflex in the lumbar cord, by aphasic conditions in certain regions of the cerebrum, etc. To the second group belong especially the cases following varioloid and typhus, described by Westphal and Otto (*Centralblatt für die Med. Wiss.*), and a case likewise after typhus, observed by Kahler, and the important case described by Ebstein (*ibid.*, 1872, p. 367). There proof was given that, after abdominal typhus, an illness may arise, causing after several years small sclerotic foci in the medulla oblongata and medulla spinalis. In the third group, that of cases with fatal results (Leyden, Jolly, Oertel), the condition was that of extensive acute myelitis, from which, as Leyden shewed, sclerosis may arise (*Centralblatt für die Med. Wiss.*, 1878, p. 676). In cases of the first group, with quick recovery, the authors assume that there has been an acute illness caused by the migration of fungi, which, in consequence of the diminished resisting power of the organ attacked, that is to say, in conditions favourable to the development of the fungi, may lead to myelitis and sclerosis.

STEWART ON RECTAL ALIMENTATION BY DESICCATED BLOOD.

DR. F. E. STEWART of New York says (*New York Medical Record*, No. 11, 1880): In my article published in *New Remedies*, vol. viii, No. 12, entitled 'A New Method of Rectal Medication', calling attention to rectal (gelatin) capsules, and the oleates of the alkaloids *per rectum*, the absorbent power of the intestinal mucous membrane was fully discussed.

There are three ways by which blood can be introduced into the system—*per os*, by transfusion, and *per rectum*. The last named seems, for many reasons, the least objectionable. Naturally enough, drinking blood is disgusting to patients. Transfusion, even in the most careful hands, is not devoid

of danger. But injection *per rectum* is an easy and safe operation, which can be frequently repeated without risk or injury.

Blood *per rectum* has also the advantage possessed by transfusion of not being subject to the changes incident in the process of digestion.

Various articles are used for rectal alimentation—milk, albumen, and, lately, albuminose has been recommended. To be of any use to the system, they must be taken into the circulation, converted into blood, or else substituted for it. Blood is the product of digestion; and it is supposed that before food can be converted into blood, the saliva, gastric, pancreatic, and intestinal juices and bile must perform their action, absorption must take place, and, finally, that wonderful vital constructive process by which the corpuscles are made, and the blood is fitted to perform its part in nutrition. If this be all true, blood cannot be manufactured from these articles when injected into the rectum, and their beneficial effect must be accounted for in some other way. It would seem, therefore, that blood itself, for rectal alimentation, if absorbed, would be more suitable to meet the wants of the system.

Blood is the food and air of the tissues. As it is the province of the vegetable world to convert the elements of surrounding nature into organic forms fitted for food, so it is the province of digestion to convert food into blood to feed the vital organs. Blood is, therefore, called the vital fluid or the life, and its presence in the vital organs is indispensable to their function. Only a momentary arrest from the brain results in syncope, or fainting away, and any organ deprived of it soon loses functional activity. Supplies for the growth and repair of the whole body are in the blood. Blood is but the body in a liquid state. Being, therefore, perfectly adapted to build and construct tissues, and indispensable to life, its administration would seem to be indicated when tissues are wasted and life is threatened by disease.

Like other vital organs, the nerves depend directly on the blood for their functional activity, and deprivation results in morbid phenomena. Close physiological relations exist between the red corpuscles of the blood and the healthy life of the nerves. This relation is probably between the hæmaglobin—the red colouring matter of the blood, which forms the principal substance of which the red corpuscles are composed (about 25 to 30 per cent. of their weight, or 86 per cent. of their solid ingredients)—and the nerves. A morbid diminution of the red corpuscles is designated anæmia. As the action of every organ in the body depends upon the nerves, it naturally follows that if they be impaired there is a general deficiency of functional energy. All the vital functions are languidly performed. The action of the heart is feeble, and easily disturbed. Mental energy, strength of will, and purpose, are diminished. Neither can the action of impaired nerves on the secretory organs manufacture healthy digestive fluids for the preparation of food to be converted into healthy blood, so necessary for nerve-supply. Then, too, the brain sympathises in this condition, and the mind, becoming affected in turn, reacts on the nerves to increase the disorder.

Nutrition is directly under nerve-control. Every secreting cell, every absorbing villus, the inherent power of each tissue to select from the blood appropriate matter for its repair, even the muscles for respiration, are supplied by artery and vein with nerve to guide their action, for the purpose of furnishing

them with blood to be used for building new tissue, and to impart nerve-force to repair that lost in the exercise of their functions.

Desiccated blood is suggested for rectal alimentation, when the life-powers are threatened by asthenia, due either to loss of blood, loss of nerve-power, or to both. It is indicated in all cases where, for any reason, digestion is impaired, in cachectic states from special constitutional poisons, and in all cases when impaired blood, nerves, or digestion give rise to the anæmic condition, with its resulting general debility, hypochondriasis, or other functional disorder.

It is hardly reasonable to infer, and clinical experience does not justify us in believing, that blood is absorbed from the rectum without a breaking down of the corpuscles; but there are good reasons to suppose that it enters the system without marked chemical change, and it has been satisfactorily proved by Dr. Smith, and other scientific physicians, that its use is remarkably beneficial to patients. How much this is due to the hæmoglobin and its action on the nerves, remains an interesting matter to determine.

Blood for rectal alimentation must be from healthy animals. Inflammatory blood from diseased cattle will not do, nor blood from animals fatigued from long journeys. None but powerful vigorous bullocks, fed and rested until the heart's action regains its accustomed tone, should be selected for this purpose.

Killing must be done in a manner to secure healthy blood. This can be accomplished only by bleeding to death. Striking on the head, or in any other way causing death from apnoea, prevents a proper arterialisation of the blood. Blood from animals killed in this manner, or the inflammatory blood from diseased cattle, is unfit for use in the arts, and therefore must be too imperfect for employment in therapeutics.

Great care also must be taken in the preparation, due attention being paid to all chemical and vital phenomena. Long exposure to the air in a fluid condition, or too high heat, not only decomposes, but devitalises it, and if the heat be raised to 160 deg. Fahr. coagulates the albumen. No heat above 100 deg. Fahr. should be used in the drying of blood, and the process should be as instantaneous as possible, and without agitation.

Desiccated blood, as thus prepared, is completely and readily soluble in water at all temperatures below 160 deg. Fahr., and contains all the elements of blood, except water and fibrin. The loss of the latter does not seem to impair its nutritive value, being but a very small proportion of the nitrogenous constituents of the blood.

A little more than a drachm of the dried article is necessary to represent a fluid ounce of blood of ordinary specific gravity, but it is sufficient to remember in using to employ a drachm to the ounce of water. To dissolve, it should be thrown into water, and allowed to stand until the albumen becomes perfectly soft to prevent sticking to stirring-rod or dish. Gentle agitation will then convert it into a perfectly homogeneous fluid, closely resembling fresh blood. It is a very difficult matter to dissolve dried blood by pouring water upon it, for it immediately adheres together in lumps, and sticks to everything brought into contact with it.

From four to six drachms of the powder daily, or more, is the dose, which may be given at once, at

bedtime, or in divided portions during the day, as circumstances seem to require.

If a greater amount than can be absorbed be injected at once, and decomposition result therefrom, it is advised to wash out the rectum with tepid water before continuing the medication.

WEBER-LIEL ON THE COMMUNICATION OF THE ENDOLYMPHATIC AND PERILYMPHATIC SPACES OF THE LABYRINTH OF THE HUMAN EAR WITH EXTRALABYRINTHINE INTRACRANIAL SPACES.

IN this paper (Virchow's *Archiv*, vol. lxxvii, 1879), which is of interest, not only to the anatomist, but especially to the student of the diseases of the brain or ear, the author first describes the means by which he proves that in the adult man the endolymphatic spaces of the ear communicate with an intradural cavity by means of the aquæductus vestibuli. The intradural cavity (sacculus endolymphaticus) is a small fraternal sac, situate on the posterior surface of the petrous portion of the temporal bone, provided with smooth moist walls, lined with a polygonal pavement-epithelium. Its presence may be demonstrated by inflation through the membranous superior semicircular canal; and, as the author has not found it absent in sixty preparations, there can be little doubt that it is of normal occurrence in the adult man. The communication of this sac with the endolymphatic spaces of the labyrinth has already been proved by Böttcher to take place in the lower animals. The method adopted by the author, and termed by him the aspiration method, consists essentially in the aspiration into the labyrinth of colouring fluid (Beale's blue), applied to the interior of the opened sacculus endolymphaticus, by means of suction applied to an opening in the membranous superior semicircular canal. By this means, in the majority of the specimens, the endolymphatic spaces alone became entirely filled with the blue fluid, as seen in both microscopic and macroscopic examination.

In another experiment, pressure with the finger on the intradural sac caused the fluid in the superior semicircular canal to rise and even to flow out. Fluid could also be made to enter the semicircular canal by suction over the unopened sacculus endolymphaticus. From these experiments the author concludes (1) that the communication of the sac with the labyrinth by means of the aquæductus vestibuli is free and easy; and (2) that the outer wall of the sac will during life communicate to the labyrinth changes in tension and pressure, which act on it from the cerebral cavity.

To show the communication of the perilymphatic spaces of the labyrinth with an intercranial cavity, the author experimented by two methods: (1.) Injections into the cavity of the arachnoid; and (2.) Experiments by the aspiration method.

Injecting blue through an elastic catheter passed into the arachnoid space of a rabbit, showed that the fluid passed by means of the aquæductus cochleæ into the perilymphatic spaces (and out through the fenestra rotunda); but as in these experiments some of the fluid also entered the subarachnoid space, it was left doubtful whether the fluid had not entered the cochlea from the last-named space. Experiments by the aspiration-method showed that fluid from the cranial cavity entered the perilymphatic spaces by means of the

aquæductus cochleæ, and not through the internal auditory meatus.

Of special practical importance are some experiments in which, by means of suction on the external auditory meatus, the scala tympani could be filled with blue fluid applied to the intracranial orifice of the aquæductus cochleæ. The fluid on the orifice of the aqueduct could be seen to rise and fall, in accordance with the condensation or exhaustion of air in the external meatus. From these experiments the author argues, with great show of reason, that (1) great increase of pressure in the external auditory meatus is able to cause an overflow of labyrinthine fluid into the extralabyrinthine cavities; and (2) that diminished pressure in the external meatus has to a certain extent an aspirating action on the cerebro-spinal fluid, and favours an overflow of the same, and a more complete filling of the perilymphatic spaces and of their venous system of blood-vessels by means of the aquæductus cochleæ. The author explains this aspiration of fluid through the aquæductus cochleæ (during suction on the external meatus) by the almost bladdery protusion of the membrana tympani secundaria which, he has previously shown, takes place during suction on the external meatus. He considers that the aquæductus cochleæ bears, as it were, the same relation to the labyrinth that the Eustachian tube does to the tympanic cavity. This communication, according to the author, probably also explains the dulness of intellect and stuffed up 'feeling in the head, which occur from increased intracuticular pressure, and which may frequently be relieved by removing the abnormal pressure by means of inflation'. On the other hand, the author points out how increased intracranial pressure may influence the labyrinth, either by pressure on the saccus endolymphaticus, or by means of the aquæductus cochleæ, giving rise to altered pressure and tension, which, without any affection of the conducting apparatus, are calculated to impair partially or entirely the function of the ear. Hence also, he considers, the fact that the labyrinth is such an extraordinarily sensitive index of chronically developing increased intracranial pressure and of hyperæmic states of the brain. E. CRESSWELL BABER, M.B.

LEVIS ON THE TREATMENT OF FRACTURE OF THE LOWER END OF THE RADIUS.

DR. R. J. LEVIS, of Pennsylvania, writes in the *Transactions* of the Medical Society of the State of Pennsylvania: The correct nature and mechanism of the ordinary form of fracture of the lower end of the radius is now, after much controversy, generally admitted and properly comprehended. With this proper understanding, the indications of treatment become rational and decisive. In the usual and very characteristic fracture of the carpal end of the radius, the primary line of fracture is, with little tendency to deviation, transverse in direction. Associated lines of fracture are generally those of comminution of the lower fragment, and are caused by the upper fragment being driven vertically into it and splitting it, usually in directions towards its articular surface.

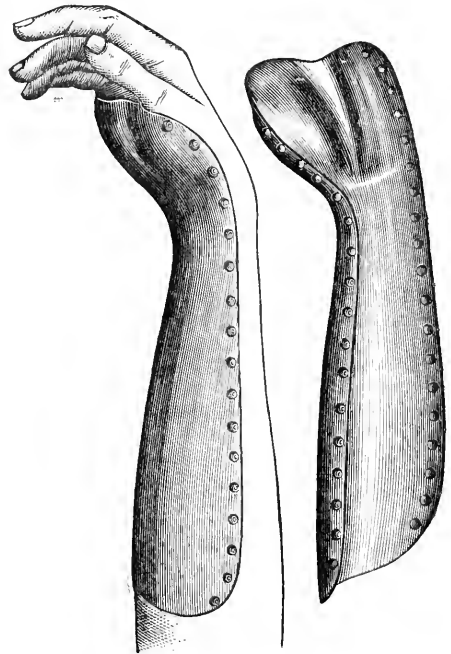
The displacement of the lower fragment is towards the dorsal aspect of the forearm, and its articular surface is inclined in the same direction, abnormally presenting backwards and upwards.

The mechanism of the fracture is its production by falls upon the palm of the hand, which, with the carpus, undergoes extreme extension, and the fracture is caused by an act of leverage, or transverse strain. This direction of force has also been called cross-breaking strain.

In this fracture, actual displacement of the lower fragment may not exist at all, or it may be to the extent of complete separation from contact of the broken surfaces, varying with the amount of force applied, and with the retaining influence of the surrounding dense structures.

The first essential of the treatment of fracture of the lower end of the radius is the complete reduction of the displacement. The action of replacement must be directed to the lower fragment itself. The reduction of the fracture can usually be thoroughly effected, under anæsthesia, by strong extension applied to the hand, associated with forced flexion of the wrist, and with pressure applied directly on the dorsal surface of the lower fragment. Unless vertical splitting or comminution of the lower fragment exists, the maintaining of partial flexion of the wrist, with pressure of a pad on the dorsal surface of the fragment, will prevent return of deformity.

With the object of retaining the apposition of the fractured surfaces, by overcoming displacing forces, I have practised for many years on the principles involved in the splint here illustrated, the application of which will not require much description. In the treatment of fracture of the lower end of the radius, it is essential that proper allowance be made for the curvature of the anterior or palmar surface of this part of the bone. This is insured in the splint which I have devised, which follows cor-



rectly the radial curvature; and the fixing of the thenar and hypothenar eminences of the hand in their moulded beds, maintains the splint immovably in its correct position with reference to the radial curve. To neglect of complete primary reduction of the displacement of the lower fragment, and to inefficient restoration and retention of the normal radial

curve, are due the frequent unfortunate sequences of this fracture.

The splint is made of copper, so as to be readily conformable by bending to suit the peculiarities of size and form of forearms. The series of little pointed elevations along the edge is for the purpose of keeping the bandage from slipping. It is tinned to prevent oxidation. The splint will usually fit the forearm so accurately that but little padding will be required, and a piece of woven lint, or of cotton, or woollen flannel is all that is necessary for its lining. No dorsal splint is needed; but, as before referred to, a small pad will, in most cases, be required over the dorsal surface of the lower fragment. For retention of the splint an ordinary bandage, two inches and a half to three inches wide, is all that is necessary. This splint has the merits of being applicable to all cases of fracture of the lower end of the radius, and also to many other injuries involving the forearm and wrist; it is almost indestructible, and as now supplied, is very inexpensive. It may be obtained by writing to any of the leading American surgical instrument makers.

MEDICINE.

RECENT PAPERS.

1. ROSENBACH.—On a Group of Symptoms probably arising from Neurosis of the Vagus Nerve. (*Deutsche Medicin. Wochenschrift*, Nos. 42 and 43, 1879.)

2. HOFFMANN.—Reflex Paralysis in Ulceration of the Large Intestine. (*Virchow's Archiv*, Band lxxx.)

3. LEYDEN and FRANKEL.—The Respiratory Interchange of Gases in Fever. (*Virchow's Archiv*, Band lxxvi.)

4. HERMIL, G.—On Diaphragmatic Pleurisy. (*Etude sur la Pleurésie Diaphragmatique*. Par G. Hermil. Paris: Delahaye. 1879.)

5. GIFFO.—On the Conjunctivitis Otitis of Hay Fever. (*Thèse de Paris*, 1879.)

6. BENEKE.—The Liability of Different Ages to Disease. (Marburg, 1879.)

7. BAUER, J., and KÜNSTLE, G.—The Effect of Antipyretic Remedies on the Decomposition of Albumen in Fever. (*Deutsches Archiv für Klinische Medicin*, Band xxiv.)

8. FORSTER.—Temperature in Coma. (*Lancet*, Dec. 1879, p. 941.)

9. DUNLOP.—Retention of Fæces for Twelve Months. (*Medical Times and Gazette*, Dec. 1879, p. 713.)

10. BRUNTON, LAUDER.—The Pathology and Treatment of Night-sweating in Pnthisis. (*St. Bartholomew's Hospital Reports*, 1879.)

11. MOORE, NORMAN.—A Case of Sclerosis of the Cortex Cerebri. (*Ibid.*)

12. STEAVENSON.—An Unusual Cause of Hemiplegia. (*Ibid.*)

1. *Rosenbach on a Group of Symptoms probably arising from Neurosis of the Vagus Nerve.*—Rosenbach (*Deutsche Med. Wochenschrift*, Nos. 42 and 43, 1879) says that between the ages of twenty and thirty, there arises, probably especially in man, after undoubted faults of diet, an affection of the stomach in which the essential difficulties in respect to digestion are put in the back-ground on account of certain nervous symptoms. The attacks are characterised by apnoea, palpitation, or (most frequent) arhythmic action of the heart, pulsation in the region of the abdominal aorta, depression of mind, feeling of hunger,

which rises to ravenous hunger, slight discomfort in the epigastrium, and constipation. The longer the affection lasts—especially as the etiological connection with dietetic errors is often not recognised, and the patient's fears are confirmed by a treatment directed towards the heart symptoms—the more the psychical depression grows, while the gastric symptoms come gradually into the foreground. The chalky colour of the face is also characteristic of the first stages of the affection. Rosenbach thinks that these appearances are best explained by reflex irritation of the vagus, brought about by an injurious action on its gastric branches. The prognosis appears, according to the cases observed thus far, to be favourable. When the diagnosis is made in any case, attention must above all be directed to the removal of the causes acting injuriously; thus the regulation of the diet suggests itself as the most important point in the treatment.

2. *Hoffmann on Reflex Paralysis in Ulceration of the Large Intestine.*—Dr. A. Hoffmann (*Virchow's Archiv*, Band lxxx, p. 43) reports a case of dysentery in a man, aged 27, who, during a relapse, began to suffer from sharp pains radiating through the left leg. The spine was tender on pressure from the eleventh dorsal vertebra downwards. Cramps had commenced in the left leg, which soon became paralysed, and its sensibility was lost. Not long afterwards there was paralysis of motion and sensation in the right leg; incontinence of urine followed, involuntary evacuations, bed-sores, and finally death. Reflex excitability was at first retained in the paralysed limbs; later it was lost, and the patellar tendon-reflex was absent. The faradic excitability remained intact, and also the electro-muscular sensibility. In the large intestine were found ulcerations, which Professor Botcher considered to be of syphilitic origin. The spinal cord and its membranes were pale; the consistence of the cord was throughout good; there were no granular cells. The large nerve-trunks in the left sacral and lumbar plexus were intact (they were examined microscopically after previous hardening). Between the seventh and tenth dorsal vertebræ the spinal marrow was softened and friable in consequence of diffuse myelitis in the posterior part of the lateral column. Above this focus there were found on both sides other small foci, in which the normal nerve-fibres were quite wanting. Of the posterior columns, the left was considerably changed above this focus, and extremely pale; this change was limited above as far as the pyramidal crossing to the left column of Goll. There were no secondary changes below the focus. Hoffmann considers the primary change to have been a circumscribed inflammation of the left posterior column, from which an acute transverse myelitis had developed itself. Inflammation was indeed absent in the intervening parts (between the myelitic focus and intestinal ulcerations), but it might, according to Hoffmann, have been present, and have subsequently passed off; in any case, the inflammation must have crept into the cord through the posterior roots. Hoffmann does not consider the spinal affection as syphilitic.

3. *Leyden and Fränkel on the Respiratory Interchange of Gases in Fever.*—Leyden and Fränkel (*Virchow's Archiv*, 76 Band) have made a series of researches to determine the question, whether fever is connected with an increase of the oxidising process. The researches were made on hungry dogs (weighing from twenty to thirty kilogrammes) in a small Pettenkofer's respiratory chamber; the fever was induced by injection of pus

into the muscles of the thigh. Seven series of researches were carried on in a number of dogs, each of which was kept from eight to ten days, with four or five examinations of the respiratory products. The researches gave as a result, that the suppurative fever of the dog, so far as it was associated with palpable rise of temperature, had without exception an increase of carbonic acid as an urinary result; it was further found that the effect of the elimination of carbonic acid was smaller in proportion as the febrile reaction was the less. The authors conclude that constant alteration in the interchange of gases represents a factor in the collection of symptoms known as fever, which stands in necessary relation with the elevation of temperature, and that the increased elimination of carbonic acid in the suppurative fever of the dog is the consequence of a like increase in the process of combustion. The increase of the temperature of the body cannot, however, exclusively depend on the oxidising process, but is, according to all appearances allied also to the alteration in the 'regulator of heat' in fever. How this latter is caused is uncertain. Either the evaporation of water from the skin is interfered with in the height of the fever, or the whole cutaneous vascular apparatus is in so changed a condition that not so much heat is given off by conduction and radiation as would be the case under normal circumstances with equal production of heat. Probably both factors unite with the greater production of heat to give rise to the febrile elevation of temperature.

4. *Hermil on Diaphragmatic Pleurisy.*—In an interesting work on this subject, M. Hermil says that this affection is more common than is ordinarily supposed, and that in the cases in which it is primary it may be considered as relatively mild. The first part contains a very complete historical summary; the second, a clinical history. This form of pleurisy commences like ordinary pleurisy, with fever, shivering, pains in the side; all the symptoms, however, being less acute than in ordinary pleurisy. Effusion reveals itself by the ordinary signs, but never rises above the inferior third of the pleura, and rarely reaches that limit. The characteristic indications of the disease are neuralgia of the phrenic nerve, cardio-costal tenderness, and pain at the origin of the scalenus. After two or three days of slightly febrile state, effusion forms on the other side. This is always less considerable than the first, and need hardly be considered a complication; and even this new inflammation, far from inducing a recrudescence of the symptoms, appears to M. Hermil in certain cases to exercise a favourable influence on the evolution of the affection. This paradoxical amelioration is by no means one of the least interesting effects of the symptomatology of benign diaphragmatic pleurisy. [This work of M. Hermil is based upon sixty-two cases, of which a large number are personal; in these sixty-two cases there were thirty-three recoveries and twenty-nine deaths. But whilst there were twenty-eight deaths in the thirty-five cases in which the disease was secondary, there were twenty-three recoveries in the twenty-seven cases in which it was primary.—*Rep.*]

5. *Giffon the Conjunctivitis and Otitis of Hay-fever.*—Giffon (*Thèse de Paris*, 1879) draws attention to this form of conjunctivitis, of which the three principal symptoms are: itching of the eyelids, weeping, and photophobia. The ordinary treatment of catarrhal conjunctivitis would be useless in such cases, but a notable amelioration is obtained by the habitual use of eserine. The catarrhal otitis consecutive on the

coryza of hay-fever is accompanied by obstruction of the Eustachian tube, and is especially ameliorated by catheterisation.

6. *Bencke on the Liability of Different Ages to Disease.*—In a work on this subject, (*Marburg*, 1879) Dr. Bencke purposes to show all the striking differences in the dispositions of different ages to the more important diseases and their phenomena, and to explain their causes, which can of course only be contained in two groups of factors, namely, the internal and external conditions of life. Having first divided the different periods of life into appropriate natural divisions, he gives a circumstantial account of the results obtained by anthropometry, and shows how greatly the relative sizes of the anatomical apparatus differ in each separate stage of life; the results of these experiments are not only well described in their proper sequence, but are also represented in easily intelligible diagrams, which show the varying length of the body, volume of the heart, and circumference of the great arteries at each period of life. In these researches, Dr. Bencke relies upon his own extensive and valuable measurements, and, at the same time, he points out the physiological differences of each age, so far at least as these may result from anatomical differences. He then details the variations upon which any observations have been recorded. The principal ones are the amount of water contained in the blood and tissues, the amount of hæmoglobin, the activity of the glands and of the central organs of the nervous system, the mode of nutrition, and the interdependence of all these influences. In this way, an accurate image is presented of the anatomical and physiological differences proper to each period of life. By the help of good statistics (in part original) of disease and, where these are not obtainable, of mortality, he successively describes the liability of different ages to the different disease, and to their accompanying phenomena. He lastly tries to explain their causes by means of the results already obtained, but nevertheless refers in his explanations not only to anatomical and physiological relations, but also to the varying external conditions of life and their effects. We can here only give this bare outline of the work before us, which we can heartily recommend for further study, as it offers to the reader much new, and, in many respects, valuable material, and may also encourage him to additional work in this important branch of etiology.

7. *Bauer and Künstle on the Effect of Antipyretic Remedies upon the Decomposition of Albumen in Fever.*—In order to determine whether the febrile increase in the decomposition of albumen is a consequence of the elevation of temperature only, or whether it may also be due to other conditions, as some facts seem to indicate, the authors (*Deutsches Arch. für Klin. Med.*, Band xxiv, p. 57) have investigated the quantity of urea or nitrogen excreted in cases of typhus, both before and after the reduction of the temperature by means of quinine and salicylate of soda. An uniform diet was maintained as far as possible, so that the excretion of nitrogen in the urine also remained moderately regular, whilst it becomes very irregular when varying quantities of albumen are taken, as in the case of healthy persons; but at the same time no perceptible difference was thereby produced in the temperature. Their experiments showed that, when the febrile temperature was lowered by the administration of quinine or salicylate of soda, there was no decrease, but almost regularly a slight increase in the amount of nitrogen

excreted in the urine. According to experiments by Kerner and Von Boeck, quinine at any rate has no direct action in promoting the decomposition of albumen. Exactly similar results were obtained by the use of cold baths, although L. Schröder had previously (*Centralblatt für die Med. Wiss.*, 1870, p. 59), found that the opposite was the case. The authors compare the condition found by them with the increase in the excretion of nitrogen, and explain it as follows. From the fact that a fever-patient, when fasting, decomposes more albumen than a man who is free from fever, it may be concluded that, when the temperature rises, the organs must deliver up a larger portion of organised albuminous substances to the circulation. (Clinical facts and experiments by Dr. Naunyn have proved that the albumen begins to decompose even before the rise of the temperature.) But as the quantity of cells must constantly decrease if they be not replaced with sufficient rapidity, a fever produces conditions under which the number of active cells appears diminished, and the amount of albumen in the circulation abnormally increased. In most cases, the cells lose the power of absorbing substances as long as the febrile heat lasts. The authors, moreover, conclude that there is an apparent diminution of the power of cells to decompose substances during febrile heat, from the fact that, when much albumen is given in fever, the excretion of nitrogen becomes more plentiful, but not quite in proportion to the amount taken in; this result was obtained by a series of observations. It may, therefore, be assumed that, when albumen is supplied to fever-patients, the amount of albumen in the circulation is increased without a corresponding rise in the rate of decomposition. When the febrile temperature falls rapidly, the conditions proper to a cell of normal heat immediately come into play, albuminous substances are deposited and the excess decomposed, and the whole body behaves just as when a large amount of albumen is taken after a long fast, the albumen in the circulation and that in the organs settle down into definite proportions.

8. *Forster on Temperature in Coma.*—Mr. Forster (*Lancet*, December 1879, p. 941) reports a case illustrating the value of the thermometer in diagnosing the cause of coma, where this is open to doubt. A wagoner, who was known to have been drinking, was found perfectly unconscious, with no concomitant symptom of apoplexy. The temperature was 93.2 deg., pulse 51. A very guarded prognosis was given. Thirty hours subsequently, consciousness having returned, he was completely hemiplegic. [Papers, too numerous to specify, lie scattered through the various periodicals, illustrating the value of the thermometer in similar cases. A reference to sections 1264:1—1288:2—1412:2—1418:6, and 1428:2, in the *Medical Digest*, will repay those who desire further information upon the subject.—*Rep.*]

9. *Dunlop on Retention of Faeces for Twelve Months.*—A very instructive case, when read in connection with Dr. Duncan's lecture on this subject, referred to in the LONDON MEDICAL RECORD for January, page 13, is recorded by Dr. Dunlop (*Medical Times and Gazette*, December 1879, page 713). A lady, aged 54, had suffered constant agony during defecation, for twelve months, so much so as to render life miserable. She declined all examinations and treatment, except lubricating the parts with oil, until seen by Dr. Dunlop, who, very properly, declined prescribing until satisfied of the state of

things by manual examination. The finger introduced into the rectum came upon a pouched scybalum, which, when rotated, allowed horribly offensive fluid faeces to pass. On removal, the scybalum was hard, dry, and greenish in colour; and immediately, on washing out the bowel with an enema, a large quantity of ill-conditioned faeces, which had been long pent up in the colon, was forcibly ejected. The patient made a rapid recovery. R. NEALE, M.D.

10. *Brunton on the Pathology and Treatment of Night-Sweating in Phthisis.*—In this paper (*St. Bartholomew's Hospital Reports*, vol. xv, 1879), Dr. Lauder Brunton states, and gives ample reasons for, his belief that the night-sweats of phthisis, and the exhaustion which immediately follows them, are due to one and the same cause, namely, the accumulation of carbonic acid and products of tissue-waste in the blood. His view is that the respiratory centre becomes exhausted by the reflex irritation from the lungs and by frequent coughing, so that, especially during sleep, it no longer responds so readily as it should to the stimulus directly applied to it by carbonic acid in the blood. The result is that the blood becomes more or less venous, and to this venosity, and the consequent imperfect tissue-change, and not, as was formerly supposed, to the actual loss of fluid or sweat during sleep, are the nervous and muscular exhaustion and prostration observed in night-sweats to be attributed. The fact that increase of carbonic acid in the blood stimulates the secretion of sweat is proved, not only by experiment, but by the cold sweats which appear on the foreheads of dying persons just at the time that lividity begins to show itself in the lips, ear-lobes, and finger-tips. Acting on this theory, Dr. Brunton tried the effects in these cases of strychnia, a drug which is known to increase the excitability of the respiratory centre. Four cases are related, in all of which tincture of nux vomica, in doses of from five to twenty-five drops, given at bed-time, proved effectual in checking the sweating. It is evident, however, that by thus increasing its excitability, the respiratory centre is rendered more susceptible to reflex irritation, such as may be caused by tubercle in the lungs. In this way the cough in phthisis is sometimes increased. This disadvantage may sometimes be met by combining opium with the strychnia. Where strychnia does not appear to suit, atropia may answer perfectly. Atropia, as has been shown by von Bezold, has a marked action in stimulating the respiratory centre; it also acts upon the peripheral terminations of the sweat-nerves, and lessens the irritability of the sensory nerves of the lung. Owing to the last-named action, it is likely to diminish cough and consequent exhaustion of the respiratory centre. Hyoscyamus acts similarly to atropia. Dover's powder has been shown by Dr. Murrell frequently to arrest the night-sweats of phthisis; Dr. Brunton explains this by the action of the opium in lessening cough and consequent irritation and exhaustion of the respiratory centre, and of the ipecacuanha in powerfully stimulating this centre. Night-sweats in phthisis may also occasionally be due to the stimulation of the sweating centres by increased temperature; under these circumstances quinine is probably the best remedy. The author concludes by saying that in the night-sweat of phthisis, atropia is probably the most powerful remedy we possess, but its use may be inconvenient, owing to its effect on the salivary glands. Dover's powder comes next on the list, but, if it should interfere with digestion, strychnia

or nux vomica should be tried. Strychnia is most specially indicated in cases in which cough is not very distressing, but general debility with weakness of the circulation and digestion are prominent symptoms. [The reporter quite recently saw a patient, far advanced in phthisis, who volunteered the statement that she was never greatly troubled by both cough and night-sweating at the same time; when one of the symptoms was prominent, the other always remained in abeyance. The facts seemed to be at once explained by Dr. Brunton's theory of the pathology of night-sweats.]

11. *Moore on a Case of Sclerosis of the Cortex Cerebri*.—A female child, aged 5 (*St. Bartholomew's Hospital Reports*), previously healthy, became suddenly affected with muscular twitchings of the face; three days later left hemiplegia came on, and after another ten days loss of voluntary motion on the right side occurred, accompanied by aphasia. Contracture of the left limbs set in about five weeks after they were first noticed to be paralysed, and, later on, of the right limbs also. The patient lived for about three months from the occurrence of the first symptoms; she resisted being touched, screamed fretfully at intervals, could not see, but apparently could hear slightly. Muscular rigidity passed off under chloroform, and the muscles responded readily to faradisation of moderate intensity. Ophthalmoscopic examination revealed nothing more than slight hyperæmia of the optic discs. During the last six weeks of life, the child had several fits of an epileptic character. During the last three weeks, successive crops of boils appeared upon the abdomen. A fortnight before death disturbances of sensation, which had not apparently been present earlier, were noted; the right arm below the elbow, and the right side of the neck, were anæsthetic. Death took place from rapid emaciation and exhaustion, the spastic rigidity of the limbs relaxing towards the last, apparently from mere weakness. After death, it was found that there was much clear fluid in the subarachnoid space and in the cerebral ventricles. The grey cortical substance was greatly softened, and of a distinct yellow colour in several places. In some regions this change affected the whole thickness of the cortex, in others, only the most superficial layers. The medullary substance was normal throughout. The morbid appearances were almost symmetrical upon the two sides. The convolutions most markedly affected were (1) the hinder part of the first frontal; (2) the hinder part of the third frontal; (3) the ascending parietal; (4) the ascending frontal; (5) the callosal marginal convolution, as far as the fissure of Rolando. Sections of the cortical substance were taken from several different regions; they all showed the same appearances under the microscope, namely, a great increase in the neuroglia, and diminution in the number of nerve-cells. Some of the cells looked shrunken and smaller than natural, but this may have been due to the reagents employed. The increase of connective tissue was great and unmistakable, showing, in the author's opinion, that the cerebral affection was pathologically a true sclerosis.

12. *Stevenson on an Unusual Cause of Hemiplegia*.—A man, aged 20 (*St. Bartholomew's Hospital Reports*), had a knitting-needle run into his left orbit to the depth of about four inches. Five days later, right hemiplegia came on in the night; sensation remained unaltered, but the power of speech was lost for two months. Sixteen months after the accident, the patient was gradually recovering power

over all the paralysed parts; he had had three epileptiform fits at intervals of about two months. The author has found by experiment that a knitting-needle, pushed into the orbit, passes most readily through the wide end of the sphenoidal fissure, parallel to the third nerve, then keeps clear beneath the base of the brain until it reaches the medulla oblongata. The needle could, however, be made to pass through the outer angle of the sphenoidal fissure into the fissure of Sylvius, injuring the outer part of Broca's convolution; this is the direction which the author believes was followed by the needle in the case reported. [The fact that the hemiplegia and aphasia did not come on until five days after the accident, rather suggests the suspicion that the third frontal convolution was not directly injured at the time, but was affected later by the extension of irritation or inflammation from the seat of injury.—*Rep.*]

CHAS. S. W. COBBOLD, M.D.

THERAPEUTICS AND PHARMACOLOGY.

1. NEISSER, A.—Clinical and Experimental Observations on the Action of Pyrogallic Acid. (*Zeitschrift für Klin. Medicin*, Band i.)
2. ANDREW, G. L.—On Ergot in Acute Dysentery. (*American Practitioner*, Nov. 1879.)
3. ABBOTT, S. L.—On Salicylic Acid and Salicylate of Soda in Sciatica and Neuralgia. (*Boston Med. and Surg. Journal*)
4. LEWIS, C. H.—Belladonna as an Antidote to Opium-Poisoning. (*Detroit Lancet*, Nov. 1879.)
5. BUCKLER, T. H.—Solvents of Gall-stones. (*Ibid.*, Oct. 23, 1879.)
6. ANDERSON.—On Iodine in Malarial Fevers. (*Proceedings of King's County Medical Society*, July 18, 1879.)
7. JENKENS.—On Certain Inconveniences of Pilocarpine. (*Philadelphia Med. and Surg. Reporter*, Nov. 15, 1879.)
8. VIDAL.—Treatment of Prolapsus Recti by Injections of Ergotine. (*Lyon Medical*, Sept. 21, 1879.)
9. SCHULZ.—Copper as a Test for Salicylic Acid. (*Kliniker Zeitung*, 1879.)
10. LIDELL, J. A.—The Treatment of Dysentery by Saline Purgatives. (*American Journal of the Medical Sciences*, Jan. 1879.)
11. MCCULLOUGH, JAMES.—Nitrite of Amyl as an Antidote in Chloral-Poisoning. (*Canada Lancet*.)
12. WEIGERT, L.—The Treatment of Diphtheria. (*Hospital Gazette*, Jan. 16, 1879.)
13. DESPRES, H.—Stomacal Digestion and Duodenal Digestion: Action of Pancreatine. (*Ibid.*)
14. CZARTORYSKI, M.—On Blood as a Stimulant and Food. (*Michigan Medical News*.)
15. BURMAN, C. C.—Treatment of Epistaxis. (*British Medical Journal*, Dec. 1879, p. 1051.)
16. BRADLEY, S. M.—The Cure of Sneezing. (*Ibid.*, Dec. 1879, p. 1021.)

1. *Neisser and Engert on the Therapeutic Uses and Toxic Properties of Pyrogallic Acid*.—M. Neisser (*Zeitschrift für Klin. Med.*, Band I, 88) reports a fatal case in contradiction to the reassuring statements which have been made of the harmlessness of pyrogallic acid. The patient, a strong man, aged 34, attacked with universal psoriasis, two hours after one half of his body was rubbed with rhubarb ointment (for comparison) and the other with pyrogallic acid ointment, felt himself very uncomfortable; then followed shivering, *malaise*, vertigo, collapse, torpor, coma. The temperature was 40.1 Cent.

(104.2 deg. Fahr.); pulse, 96 to 120; urine very dark, free from albumen. Shortly before death, which followed in eighty-four hours, the urine—which during the whole duration of the illness only amounted to 1600 cubic centimètres—showed the highest degree of hæmoglobinuria. The *post mortem* examination confirmed the diagnosis of dissolution of the blood. In consequence of this important case, the author instituted a series of researches on animals, which showed that rhubarb in any form, as well as chrysophanic acid, is harmless; that even in very large subcutaneous doses (ten to 15 grammes) the colouring matter, indeed, appeared in the urine, but the animals remained healthy, even as regards the local phenomena in the spots injected. On the other hand, pyrogalllic acid showed itself to be an intense poison. In small doses it is decomposed by the alkaline blood, and absorbs a part of the loosely combined oxygen with discoloration of the blood. In larger doses it destroys the red blood-corpuscles, changes the character of the blood so that circulation becomes impossible, causes hæmoglobinuria with formation of pigment-cylinders in the urinary tubes, and often in this way rapidly produces death. The anuria resulting from the obstruction of the urinary tubes is too short in duration to make death from accumulation of the injurious urinary elements a possible contingency, but the closure of many uriniferous tubules favours the retention of the pyrogalllic acid in the urine, and thus increases its toxic effect. On this account diuresis must be excited as much as possible, and in case of need the damaged composition of the blood be repaired by transfusion. In any case, it follows from these clinical and experimental observations, that the use of pyrogalllic acid is to be prohibited in all cases where large parts of the surface of the body are to be treated, as in universal psoriasis; it can, on the other hand, be employed without mischief for smaller surfaces of skin (psoriasis of the head, face; lupus, epithelioma). Rosa Engert has had good results with pyrogalllic acid, used as a local irritant, not only in skin-diseases, but in cancrioid of the vaginal mucous membrane.

2. *Andrew on Ergot in Acute Dysentery.*—Dr. L. G. Andrew, of Laporte, Indiana, reports (*American Practitioner*, November 1879) the case of a man, aged 18, labouring under a severe acute dysentery, who was treated with ordinary remedies, without relief from suffering, or any improvement in the symptoms. He was given two drachms of fluid extract of ergot every three hours, with speedy relief from tormina, tenesmus, and bloody discharges.

3. *Abbott on Salicylic Acid and Salicylate of Soda in Sciatica and Neuralgia.*—Dr. S. L. Abbott (*Boston Medical and Surgical Journal*) reports three cases of sciatica and three of acute facial neuralgia, in which salicylic acid and salicylate of soda were employed with success. He says that these cases seem to show that salicylic acid and its compounds are so reliable in acute neuralgia as in acute rheumatism. Two of the patients had bad attacks of rheumatism. The cases, with the exception of the third case of sciatica, were all severe, and nothing could be more satisfactory than the very prompt and efficient relief which followed the administration of the remedy. He thinks that cases of a more chronic character, as in rheumatism, will not be so amenable to this treatment.

4. *Lewis on Belladonna as an Antidote to Opium-Poisoning.*—Dr. C. H. Lewis, in the November number of the *Detroit Lancet*, gives an interesting

account of a case of poisoning with morphia, treated with subcutaneous injections of atropia. He believes belladonna to be the remedy *par excellence* in opium-narcosis, but that it must be given in heroic doses. On the 22nd of August 1879, a lady took by mistake fully half a teaspoonful of morphia sulphate. About an hour was spent by another physician in procuring emesis, before Dr. Lewis saw the patient. At this time the stage of excitement was passing into that of stupor; the face was flushed, the eyes lustrous, but very prone to close, the pupil contracted, the skin warm and the pulse full and slightly accelerated. The patient could answer questions, but the last words would be lost in sleep from which she would be suddenly roused by the head dropping forward. The stomach was emptied by a full dose of sulphate of zinc, filled with water, and emptied again; then a strong decoction of coffee was given at intervals, as long as the ability to drink it remained. Later, about two drachms of the fluid extract of coffee were administered hypodermically. One twenty-fourth of a grain of sulphate of atropia was now injected subcutaneously, in fifteen minutes one-sixteenth of a grain, and the latter amount again in fifteen minutes. No effect being perceived at the end of thirty minutes, one-eighth of a grain was injected. Not long afterwards, the pupils began to dilate, and in an hour covered about one-half the iris. They remained at this degree of dilatation, and utterly unresponsive to light, with the conjunctivæ insensible to touch. Notwithstanding this expansion of the pupils, and although derivatives to the skin were vigorously applied, the stupor became more profound, respiration more slow and shallow, the pulse more frequent and feeble, and the surface more cold and pale. Although none of the physicians present had any expectation of her recovery, Dr. Lewis continued to administer one-eighth of a grain, at intervals of about an hour. Faradisation was employed for fully two hours, with the apparent result of raising the respiration from seven to twelve per minute. The first injection was given at 1 p.m., and the last at 7.15 p.m., and after the last dose its effect on the surface, pulse, and respiration, began slowly to manifest itself. At midnight the pulse was 100, regular and stronger; respirations 14, full and easy; the face slightly flushed, and the entire surface warm. Improvement progressed; and at 4 a.m. she fully awoke, the period of profound coma having been fourteen hours, and one grain and one-sixteenth of atropia having been administered subcutaneously.

5. *Buckler on Solvents of Gall-Stones.*—In the *Boston Medical and Surgical Journal* for October 23, 1879, Dr. T. H. Buckler directs attention to the recent boasts that the gall-bladder has been invaded by the surgeon's knife, with the object of removing biliary calculi. Dr. Thomas, in the able address delivered before the Gynecological Society, related this as an example to illustrate the progress and paramount importance of surgery. Dr. Buckler, however, affirms that, if there is any one thing that does and must for ever belong exclusively to the department of practical medicine, it is the ready means physicians have at command of being able always to dissolve in the gall-bladder cholesteric gall-stones with as much certainty as if these same calculi were in a glass tumbler. Eight or ten years ago a paper was published in *Ray's Journal* recommending chloroform in doses of from five to sixty drops every four to six hours, as a sure means of dissolving calculi in the gall-bladder, however large and numerous they might be. In the *American Journal of Medi-*

cal Sciences for July 1867, Dr. Buckler advised the use of the succinate of iron as a solvent of gall-stones and of cholesteric fat, whether in the arteries or elsewhere. This preparation contains more nascent appropriable oxygen than any other known therapeutic agent, and of all the ferruginous articles is one of the very best for malarious cachexy, or for any other condition where the blood-corpuscles diminish or need rehabilitation. In all hepatic diseases in which nitric and hydrochloric acids are usually prescribed, the succinate of iron will be found more efficacious. In critical and urgent cases of gall-stone, where no time can with safety be lost, Dr. Buckler prefers the conjoint use of terchloride of formyl and Stewart's preparation of the succinate of iron. In the last three cases treated successfully, the administration of both chloroform and succinate of iron was commenced as soon as the existence of a gall-stone was established beyond a reasonable doubt, the former being given in doses of ten drops every four hours, and of the latter a teaspoonful half an hour after each meal. In two instances, the patients were able to take a teaspoonful of chloroform every six hours without any ill effect. These doses dissolved the calculus within the space of a single week. Dr. Buckler states that he has seen a number of cases of gall-stone which were successfully treated with chloroform to dissolve the cholesterine existing in the gall-bladder at the time, and causing paroxysms of pain amounting to positive anguish. After existing calculi had been dissolved, then, to overcome the cholesteric diathesis, and to prevent the formation of other stones, the patients were kept on teaspoonful doses, thrice daily, of succinate of iron for a period of four to six months. Of all the certainties of medicine, there is nothing more absolutely sure than that chloroform will in every instance dissolve calculi in the gall-bladder. When taken into the stomach, it passes with the blood of the portal circulation, out of which bile is made, directly to the acini of the liver, and is carried with the newly formed biliary fluid to the gall-bladder, where its solvent power is effectual. Sometimes cholesterine clogs the acini and lesser biliary ducts, producing jaundice, in which cases this otherwise obstinate trouble is promptly relieved by giving chloroform. Ether has been recommended for the same purpose, but is not as reliable, owing to the difference in the specific gravity of these two agents, ether being the most diffusible, and floating in water, while chloroform sinks in it. According to Dr. Buckler's observation, cholelithiasis is found four times in women where it occurs once in the opposite sex. The surgeon has a fair field for trial of the proposed solvents before resorting to an expedient so perilous as the knife. Dr. Lothrop adds (*Buffalo Medical Journal*), that he has during the last eight years treated with complete success more than twenty cases of cholelithiasis by the use of succinate of the peroxide of iron alone.

6. *Anderson on Iodine in Malarial Fevers.*—Dr. Anderson (*Proceedings of King's County Medical Society*) says he prescribes iodine in cases of intermittent fever. 'Up to the present time I have treated at least three hundred cases in this manner, and with almost invariable success. As there were no changes in the diet or other hygienic conditions of the patients, there was little room left for doubt that the iodine and the rapid improvement stood in the relation of cause and effect. The time required to effect a cure naturally varied. In a large number, there was no paroxysm after the first dose; fre-

quently it took two or three days before any mitigation was observed. While it was seldom necessary to repeat the usual two or three ounce mixture, it occasionally happened that the fever returned when the medicine was omitted for a few days, but was again promptly subdued on a renewal of the iodine. That there is such a thing as a permanent cure for this subtle and Protean disease, even with iodine, I very much doubt; and no educated physician would promise it under any form of treatment. As to the question of relapse, I believe there is less chance of a return than after treatment by quinia. I have had several patients return the following year for their iodine prescription, which they remembered as having given them prompt relief; but this experience is doubtless common to all forms of treatment. Children take it readily—that is, where they will take anything readily. I have given it to children of all ages, and have not had a fraction of the trouble I formally experienced with quinia. For adults I usually prescribed twelve to fifteen minims of the compound tincture of iodine [U. S. P.], freely diluted, to be taken three times a day, after food and regardless of pyrexia. From five to ten minims usually sufficed for children. Larger doses were frequently employed in severe cases, without producing any unpleasant results. My usual prescription in private practice is as follows: Take of compound tincture of iodine six drachms; syrup of acacia, eighteen drachms. Mix. Dose, teaspoonful in wineglassful of water three times a day, after food. Why iodine acts so beneficially in malarial fevers, must remain a speculative question till we know something more definite of the disease itself. The drugs usually employed in this disease have marked antiseptic properties, and this is a prominent trait in iodine. Its special stimulant action on the entire glandular system is generally accepted, and it has long been employed to reduce enlarged spleen—so common a feature in malarial disease. Its high diffusive power causes it to enter the circulation very rapidly, and it is as quickly eliminated in the secretions.'

7. *Jenkins, Sanger, and Napier, on Certain Inconveniences of Pilocarpine.*—Dr. Jenkins of New York (*Medical and Surgical Reporter*, Nov. 15th, 1879) calls attention to a new objection to the hypodermic injection of pilocarpine—the flooding of the lungs by an excessive bronchial secretion. Professor T. G. Thomas records a similar experience; in his case, one of uræmic coma following confinement, jaborandi was tried by the rectum, the result being a profuse bronchorrhœa, which was at first attributed to an alteration in the circulation. Dr. Sanger reports (*Arch. of Gynecology*, vol. xiv, p. 412) a case of eclampsia, and quotes two which had been communicated to him by professional friends, in which the injection of pilocarpine was followed by very severe acute œdema of the lungs. Dr. Sanger's own case was treated with atropine, administered hypodermically; she had no more convulsions, and eventually recovered. The other two patients died, one of them twelve hours after the injection. Dr. Sanger ascribes the suffocative symptoms to inability to expectorate the enormous quantity of mucus poured into the bronchi, to œdema of the lungs, enfeeblement of the heart, and partial closure of the larynx by the sinking backwards of the enlarged tongue. In all three instances the pilocarpine arrested the convulsions; in the two fatal cases, however, reflex irritability was almost completely abolished, and the patients were so exhausted as to be unable to withstand the depressing effects of the pilocarpine. In

Sanger's opinion, pilocarpine, the oxytoxic action of which he fully recognises, should be given at the outset of the seizure, and before the development of coma. Dr. Napier (*Glasgow Medical Journal*, Dec. 1879) is able to add to the foregoing list another case in which the injection of pilocarpine was followed by symptoms of grave pulmonary disorder. His patient, a child suffering from scarlatinal dropsy complicated by uræmic symptoms, progressed favourably under the influence of pilocarpine till he had received the fourth injection, when he was suddenly seized with intense dyspnoea and frequent cough; the vessels of the head and face were very full, and the superficial veins of the chest and abdomen were so loaded as to give the surface a dull dusky appearance. The percussion sound was clear at all parts of the chest; the respiratory murmur was everywhere loud and harsh, and accompanied by abundant coarse and fine bubbling râles. The symptoms gradually subsided under the free action of diuretics, and the patient ultimately recovered.

8. *Vidal on Treatment of Prolapsus Recti by Injections of Ergotine*.—Dr. Vidal (*Lyon Médical*, Sept. 21st, 1879) has cured a prolapse of the rectum, of more than eight years' standing, by employing injections of ergotine. He has also treated an old standing case in a woman, and almost completely reduced the prolapse by three injections. The contractions provoked by the ergotine extend as far as the bladder, producing spasm of the neck and dysuria.

9. *Schulz on Copper as a Test for Salicylic Acid*.—Schulz (*Chemiker Zeitung*, 1879) reports that sulphate of copper is a very delicate test for salicylic acid or salicylate of soda in the urine or in any aqueous fluid. If, to a solution containing one part of salicylate of soda in twenty parts of water, or to the urine three days after taking even a small dose of salicylate of soda, a small quantity of sulphate of copper be added, an intense emerald-green colour is developed. This colour disappears on the addition of ammonia or of any strong acid.

10. *Lidell on the Treatment of Dysentery by Saline Purgatives*.—Dr. John A. Lidell (*Amer. Jour. Med. Science*, January 1879) says that Stoll's observation is correct, that dysentery should be considered as one of those disorders in which the bowels are confined, and, therefore, a disorder which should for the most be treated with laxative medicine. The use of anodynes is indicated only to check vomiting. The cases which specially demand the administration of saline purgatives are: 1. Those in which the bowels are habitually constipated, as such cases are generally burdened with intestinal accumulations which can be got rid of only by repeated doses of purgative medicine; 2. Cases of bilious dysentery; 3. Cases where portal congestion is present; 4. Cases complicated with malarial fever, or with malarial intoxication and enlarged spleen; and 5. Cases of chronic dysentery. In all cases the doses should be repeated, until bilious and feculent matter appear in the stools. Saline purgatives in these cases do good (a) by diminishing the quantity of blood in the portal vein and its tributaries, and the abdominal organs generally; (b) by expelling the noxious contents of the intestinal canal, and by substituting a benign inflammation for a malignant one. The bitartrate of potash is the best salt.

11. *McCullough on Nitrite of Amyl as an Antidote in Chloral-Poisoning*.—The nitrite of amyl was recommended as an antidote to chloral by Dr. Coghill some time ago. A case illustrating its value for this

purpose has been reported by Dr. James McCullough in the *Canada Lancet*. He was called to see an old lady one night, and found her pale, insensible, and almost pulseless. She had been taking chloral regularly as prescribed to her by a physician, but had, by accident or otherwise, taken an extremely large dose. Five drops of amyl were given her by inhalation; in a few minutes the extreme pallor gave place to a healthy glow, the respiration became deep, and the pulse fuller. She did not, however, regain consciousness, and, in two hours, became weak again. The amyl was repeated with the same beneficial results. After this, with the help of brandy, she completely recovered.

12. *Weigert on the Treatment of Diphtheria*.—Dr. Louis Weigert says (*Hosp. Gazette*, January 16, 1879), 'I firmly believe and confidently assert that death from diphtheria need hereafter be of but rare occurrence'. His treatment consists in the administration of mercury, bringing the patient well under its influence during the first forty-eight hours of its use, and the inhalation of the fumes from black oxide of mercury. He enumerates several cases illustrative of this treatment, one of which is appended. R. I., aged 3, was seen September 15th, at 5 p.m. He complained the previous night of sore throat and head-ache. The temperature in the axilla was 103 degs., pulse 140, tongue coated, diphtheritic odour was strongly marked; both tonsils were well covered with membrane. He was ordered cold applications to the neck, to take every hour a powder containing one grain each of calomel and Dover's powder, and to inhale the fumes of black oxide of mercury (gr. x) every two hours. At eight the following morning the temperature was reduced to 99 deg. and the second morning to 98½ deg. On the third day the membrane had nearly disappeared; and on the seventh day the child was discharged cured.

13. *Desprès on the Treatment of Metrorrhagia by Infusion of Black Coffee*.—Dr. Desprès (*Abeille Médicale*) recommends the use of this method, which he says has succeeded with him already in three severe cases. The first was a case of a metrorrhagia following confinement, which had resisted all the ordinary methods. The second was a case of metrorrhagia due to anæmia. It had equally resisted all treatment. The third case was observed in a young woman, aged 26, subject to metrorrhagia, recurring every fifteen days and lasting eight days at a time. Rest in bed and cold compresses had not produced any result. Desprès gave from three to six cups of strong coffee daily. In this dose it produced agitation, sleeplessness, sometimes even a sort of intoxication.

14. *Czartoryski on Blood as a Stimulant and Food*.—Dr. M. Czartoryski, in the *Michigan Medical News*, says: 'I would call the attention to a most valuable therapeutic article in all cases where progressive consumption of bodily tissue, anæmia, and nervous prostration are prominent symptoms. This is the fresh blood of healthy chickens or other poultry, drawn from the wound direct and well-mixed with warm wine or milk-punch, or with warm lemonade, milk, or coffee, and flavoured to taste, and taken immediately by patients before it becomes coagulated. It acts with the most surprising promptitude, relieving symptoms of extreme prostration: for instance, in cases of extreme flooding when the patient is completely exhausted and hope abandoned, I have seen it quickly restore warmth and circulation, and at the same allay nervous and gastric irritation. The patient in this condition generally, about eight to

twenty minutes after taking the dose, falls into a sound, healthy sleep. On awaking, the dose is repeated, taking the blood of one to three healthy chickens in the twenty-four hours, always in warm drinks, until the patient is restored to health. It acts better and more promptly than the transfusion of blood from vein to vein. Any one may satisfy himself of its prompt effect if tired and worn out by fatigue. Within three minutes after taking a dose a pleasant warmth and pleasurable sensation is felt, extending from the stomach over to the solar plexus, gradually pervading the whole system to the end of the toes and tips of the fingers; at the same time the pulse quickens and bodily and mental fatigue disappear. The blood of poultry is in every respect preferable to that of cattle, sheep, etc., as it is much richer in red corpuscles and phosphates, is more easily obtained, and the certainty of its coming from a healthy bird is greater; besides, the patient avoids seeing the disgusting and terrible sights so often seen in slaughter-houses, or smelling their offensive odour, or running the danger consequent to the killing of large, maddened, and frightened animals—sights, smells, and dangers that many patients would rather die than encounter. Dr. Czartoryski credits Avicenna with having urged and used this practice.

15. *Burman on Vinegar in Epistaxis*.—Being called to a severe case of epistaxis (*British Medical Journal*, December 1879, p. 1051) at a distance from home, when unprovided with ergot or other remedies, Mr. Burman filled his mouth with vinegar and, passing a catheter up the nares, injected the vinegar well into the nostrils. The result was most satisfactory.

16. *Bradley on the Cure of Sneezing*.—Mr. Bradley caught a severe cold (*British Medical Journal*, December, 1879, p. 1021) and was troubled with incessant sneezing. All remedies failed to give ease. At last cotton-wool was lightly inserted into the nostrils with instantaneous relief; he sneezed no more. The remedy is well worth trying in hay-fever.

R. NEALE, M.D.

PATHOLOGY.

RECENT PAPERS.

1. BILLROTH.—On Gangrene from Arteritis Petrificans and other causes. (*Allg. Wiener Med. Zeitung*, No. 50, December 16, 1879.)

2. TSCHAMER, A.—On the Nature of Scarlatinal and Diphtheritic Contagia and their Interchangeability. (*Central Zeitung für Kinderheilk.*, 1879, No. 23.)

3. MEYERSOHN.—On Congenital Defects in both Lower Extremities. (*Virchow's Archiv*, Band lxxvi.)

4. GRAWITZ.—On Malignant Osteomyelitis and Sarcomatous Diseases of the Bone in Cases of Pernicious Anæmia. (*Ibid.*, Band lxxvi, § 353.)

5. RECLUS, PAUL.—Hyperostoses consecutive on Obstinate Ulcers of the Leg. (*Progres Medical*, Nos. 49, 50, and 51.)

6. TALAMON, CHAS.—On Diphtheria. (*Ibid.*, Sept. 20, 1879.)

7. JAARSVELD, G. J., and STOKVIS, B. J.—On the Influence of Diseases of the Kidney in the Formation of Hippuric Acid. (*Archiv für Experimentelle Pathologie*, etc., Band x; and *Centralblatt für die Med. Wissensch.*, Nov. 1, 1879.)

8. BRISSAUD, E.—On Articular Tuberculosis. (*Revue Mensuelle de Médecine et de Chirurgie*, July 1879.)

1. *Billroth on Gangrene from Arteritis Petrificans and other Causes*.—Professor Billroth, at the sitting of the Viennese Medical Society (*Allgemeine Wiener Medizinische Zeitung*, No. 50, December 16th, 1879) on December 12th, reported a case of a strongly built forester, aged 30, in whom the feet had often been very near suffering from frost-bite, with reddening, swelling of the toes, and tendency to limited gangrene. He was admitted to the hospital, this time with well-marked frost-bite of the left interior part of the foot. Amputation had been performed on the previous day, and it was immediately observed that the limb did not become bloodless on the application of Esmarch's elastic bandage, and that the arteries bled freely. When the attempt was made to tie the arteries which were spouting freely, it was found that all of them, up to the smallest branches, were calcified. At the age of the above-mentioned patient, he showed the drawings of a case of spontaneous dry gangrene of the hand and lower third of the forearm occurring in a diabetic woman, aged 47, who had never been syphilitic. Amputation was performed in the upper third of the forearm, but not one artery bled. On account of bed-sores, she was transferred to a water-bed, and then occurred extensive furunculosis, which the examination of the urine showed to be due to *diabetes mellitus*. She died of general exhaustion, and extensive chalky atheroma of the large vessels of the upper half of the body was discovered.

2. *Tschamer on the Nature of Scarlatinal and Diphtheritic Contagia and their Interchangeability*.—Tschamer (*Central-Zeitung für Kinderheilk.*, 1879, No. 23) found constantly present in the blood, on the epidermic scales, and in the liver of scarlet fever patients, little punctiform bodies, which he recognised mostly as micrococci, more rarely as rods. Culture-researches, which were carried out partly in solutions of sugar, partly in paste, resulted in a development of rods, then of spores, and, finally, of branched hyphæ of a mould-fungus, which was recognised as *Verticillium candelabrum*. From the spores of the latter were again developed micrococci, the inoculation of which, on the author himself, produced a reddening of the skin around the place of inoculation; he swallowed, moreover, a large piece of the *Verticillium*, and remarked, three days later, a slight pharyngeal catarrh, lasting two days. A similar observation was made in diphtheria; the fungi 'cultivated' from the urine or diphtheritic membrane belonged to the species, *Verticillium ruberimum*. Tschamer adopts Hallier's theory, according to which micrococci can arise from fungus-spores, and *vice versa*, as fully applicable to the fungus of scarlet fever and diphtheria; both diseases, according to him, arise from the action of a *Verticillium*. This genus, according to Bonorden, breeds on decaying wood.

3. *Meyersohn on Congenital Defects in both Lower Extremities*.—Meyersohn (*Virchow's Archiv*, Band lxxvi, s. 330) describes the case of a man, aged 27, who had a congenital deficiency of the right foot; of the (lower) leg there existed only a short stump with tibia and fibula. In the left leg, which was much shortened, the fibula was completely wanting; there was a rudimentary foot, with only one toe. While the malformation of the left leg belongs to the cases of congenital deficiency of the fibula, Meyersohn leaves it undetermined whether in the right side a fetal amputation had taken place, or a defect of formation in the more limited sense. The original is worth consulting on account of the

very careful anatomical description, as well as the literary references.

4. *Grawitz on Malignant Osteomyelitis and Sarcomatous Diseases of the Bones in Pernicious Anæmia.*—Grawitz (Virchow's *Archiv*, Band lxxvi) describes three cases. In the first case, the patient was a man aged 31, who fell ill with symptoms of pernicious anæmia after recovering from typhus. There was no fatty degeneration of the heart, no retinal nor cerebral hæmorrhage. On the other hand, there was general disease of the marrow of the bones, which was changed into red marrow, rich in cells, with numerous transformation forms. In addition to this, there was a multiple development of tumours in the base of the skull, in the bodies of the vertebræ, ribs, and sternum, as well as in the long bones which were examined, with apparently metastatic tumours in the liver, in the right suprarenal capsule, and in the peritoneum. The tumours were found to be round-celled sarcomata, very rich in cells, corresponding for the most part with Virchow's lymphosarcoma; the tissue could with difficulty be microscopically distinguished from the red medullary tissue. Grawitz is of opinion that an increase of the so-called lymphoid change, following the anæmic dyscrasia, gave rise to the formation of metastatic tumours to a certain extent parallel in formation to leukæmic growths; an opinion which is essentially supported by the generalisation of the tumours in the whole osseous system, as if on a pernicious focus, by their similar structure to that of the red medullary matter, and, finally, by the early stage of these tumours generally. Of the two other cases, one is described by Litten (*Berl. Klin. Wochenschrift*, 1878, No. 19) as leukæmia following on pernicious anæmia. Grawitz differs from Litten, inasmuch as he considers the change of the marrow of the bones, which showed a purulent greyish part of soft and almost fluid character, as the indication of malignant osteomyelitis, which led to death under the appearance of pernicious anæmia, whilst he regards the medullary leukæmia of this case as a by-product. He points out, also, as malignant osteomyelitis, a third case of typical pernicious anæmia, which ran its course without fever, in which, alongside of the customary anatomical changes, was found an extensive change of the marrow in most of the long bones into a soft quasi-purulent substance, rich in cells, with concurrent thickening of the cortex, especially in the tibia and humerus. The periosteum in a few places showed small sarcoma-like tumours, and one was found in the marrow of the right femur.

5. *Réclus on Hyperostoses Consecutive on Obstinate Ulcers of the Leg.*—Dr. Paul Réclus publishes a careful study (*Progrès Médical*, December 20th, 1879) based on the observation of cases. His conclusions are these. 1. Ulcers of the leg may give rise to divers forms of osteo-periostitis in the subjacent bones. Exceptionally destructive, the inflammation most frequently determines increase of volume; the bone is then light and spongy, covered with osteophytes. In very rare cases, the tissue of the diaphysis is hard and eburnated, the medullary canal obliterated or narrowed. 2. When the epiphyses are not yet joined, the bone increases in length, and may exceed its fellow by from 2 to 3 centimètres ($\frac{3}{4}$ to $1\frac{1}{4}$ inch). The osteophytes are more abundant. A vertical osseous diathesis may manifest itself, which shows itself by the ossification of the aponeuroses of the ligaments of the vascular and nervous sheaths; in a word, of all the fibrous tissues of the

leg. 3. From the centre of the ulcer sometimes arise prominent exostoses. These have been taken for syphilitic lesions, but the consistence of the tumour and specific treatment will establish the diagnosis. 4. Osteo-periostitis is a grave complication. It is inimical to the cicatrisation of ulcers, compromises the nutrition of the limb, and very often renders amputation necessary.

6. *Talamon on Diphtheria.*—M. Chas. Talamon, in a paper read to the Société Anatomique of Paris (*Progrès Médical* of September 20, 1879) gives the following among many other valuable observations made in the course of 108 necropsies of diphtheritic subjects. He found present: labial diphtheria, in 2 cases; œsophageal, in 1; stomatic, in 1. In these cases, there was pharyngeal and laryngeal diphtheria co-existing. Of pharyngeal and laryngeal there were 99 cases, distributed as follows: pharyngeal, 27; pharyngeal and laryngeal, 20; pharyngeal, laryngeal, and tracheal, 7; pharyngeal, laryngeal, tracheal, and bronchial, 31; laryngo-bronchial, 8; laryngo-tracheal, 1; laryngeal, 5. In these 99 cases clots were found, in the right heart, 90 times; in the left heart, 82 times.

7. *Jaarsveld and Stokvis on the Influence of Diseases of the Kidney upon the Formation of Hippuric Acid.*—Attracted by the researches of Bunge and Schmiedeberg upon the formation of hippuric acid in the kidneys, the authors (*Arch. für Exp. Path.*, etc., Band x.) tested the urine of patients suffering from kidney-disease. From 100 to 200 cubic centimètres were evaporated to the consistence of syrup, and allowed to cool completely; hydrochloric acid was then added. The mixture was allowed to stand for twenty-four hours, and then exhausted with acetic ether in a separating funnel. The ether was then carefully decanted off and allowed to evaporate; free benzoic acid was removed by means of petroleum-ether from the residue, which was then boiled with a solution of caustic soda (to decompose the hippuric acid) treated with hydrochloric acid, and again with petroleum-ether in order to estimate the benzoic acid produced from the hippuric acid, and thus also the hippuric acid itself. 1. Observations upon healthy individuals showed that benzoic acid taken internally (up to 2 grammes *per diem*) was only separated as hippuric acid. In the case of a patient suffering from paralysis of the lower extremities after typhus, but in whom there was no sign of either liver or kidney-disease—a small portion of the acid was separated as such (not in combination with glycol). In a case of retention of urine, and in three of atrophied kidneys, there was no deviation from the normal condition after taking benzoic acid. In two cases of amyloid degeneration of the kidneys, the conditions were on one day normal; but, on the next day, the greater portion of the benzoic acid was excreted in an unaltered condition. In four cases of 'parenchymatous nephritis', the acid was entirely or principally excreted as such. Generally speaking, the amount of benzoic acid separated as hippuric acid decreased as the amount of albumen in the urine increased. Accordingly, the power of converting benzoic acid taken internally into hippuric acid is interfered with by disease of the kidneys, most of all, as it seems, by 'parenchymatous nephritis', less by amyloid degeneration, and not at all by atrophy of the kidneys. 2. To ascertain where the hippuric acid is formed, the authors undertook some investigations, producing hæmoglobinuria in rabbits, like Luchsinger, by subcutaneous injections of glycerine, and immediately after feeding them on

benzoic acid. In accordance with Schmiedeberg's researches, they found that the excretion of hippuric acid was, by these means, more or less limited. In connection with this it was also ascertained that, after removal of the kidneys, the formation of hippuric acid from benzoic did not result; while, after simple ligature of the ureters, hippuric acid was found in the fluids of the cavities. Since, however, it happened that in healthy rabbits with sound kidneys the whole or part of the benzoic acid administered reappeared as such in the urine, it must be assumed that there was not enough glycol in the body to form hippuric acid. However (as Schmiedeberg, and subsequently Hoffmann, had observed), on the introduction of benzoic acid and a sufficient amount of glycol into the blood, the greater part of the former is excreted uncombined, the formation of hippuric acid cannot be exclusively referred to the kidneys. According to the well-known experiments of Kühne and Hallwachs, a complete combination of the two bodies takes place on their introduction into the stomach; a result which they attribute to the liver. The authors, however, found hippuric acid in the stomach and small intestine after introducing benzoic acid only into the body; and, accordingly, they consider that the formation of hippuric acid takes place in the intestine as well as in the kidneys and liver.

3. Experiments on the decomposition of hippuric acid showed that, where the kidneys were healthy, it was not decomposed when introduced into the stomach. Also in the case of several diseased subjects, when benzoic acid was not completely excreted as hippuric acid, no decomposition of the latter took place when introduced. In the case of two patients suffering from chronic disease of the kidneys, in whom the benzoic acid taken was scarcely, or not at all, converted into hippuric acid, decomposition of the latter when introduced, took place to the amount of 80 per cent. No relation to the albumen in the urine could be observed. In healthy rabbits, decomposition of the hippuric acid administered took place, apparently always to the extent of one-third. At last, when very large quantities were given—and this took place equally whether it was introduced into the stomach subcutaneously, or directly into the blood—the decomposition took place to the same extent when hæmoglobinuria was caused by subcutaneous injection of glycerine. On this account, and because, in the case of both subjects with diseased kidneys, no relation could be traced between the amount of albumen and the extent of the decomposition of the hippuric acid, the authors conclude that disease of the kidneys as such does not account for the decomposition. In the body, a combination of benzoic acid with glycol takes place as well as a decomposition of the hippuric acid formed. The difference in the results may be explained by the preponderance of one or the other process. In any case, the decrease in the excretion of hippuric acid in cases of disease of the kidneys is to be referred to retardation of its formation in the kidneys. Since, however, other organs (liver, intestine, and perhaps muscles) take part in this; and since, also, a decomposition of the acid takes place in the tissues, the authors think that the function of the kidneys is to bring together the compounds built up in some parts and decomposed in others.

2. *Brissaud on Articular Tuberculosis.*—The author (*Revue Mensuelle de Médecine et de Chirurgie*, June 1879) collects several cases already published by Cornil, Laveran, Roux, and Köster, and gives some

additional cases of his own. From an examination of all, he divides articular tuberculosis into three groups, upon an anatomico-pathological basis. In one, there is confluent granular infiltration in the synovial membrane; in a second, the tubercles are more scattered, but yet isolated; in the third, they become welded into a caseous mass, and granulations are but seldom apparent. M. Brissaud considers that these three forms correspond with three clinical varieties. The first form of granular infiltration corresponds to acute tubercular arthritis, which is generally a part of a veritable tubercular intoxication, an acute phthisis. The second, or inflammatory articular tuberculosis, as it is also called, corresponds to rapid articular phthisis. This form may be compared to galloping phthisis of the lung, being characterised by rapidity of attack and of destruction; but with this reservation, that the joint-affection may become chronic and even recover. The third form, or fungating articular tuberculosis, with caseous degeneration, corresponds to chronic articular phthisis, that is, to the most common form, the tubercular white swelling.

JAMES F. GOODHART, M.D.

SURGERY.

RECENT PAPERS.

1. HERFF, F.—On Successful Gastrostomy for Œsophageal Stricture. (*St. Louis Courier of Medicine*, Dec. 1879.)
2. MORTON.—On Amputation at the Hip with use of Davy's Lever. (*Glasgow Medical Journ.*, Dec. 18, 1879.)
3. SPEAR, J. M.—On a New Method of Plugging the Posterior Nares. (*Philadelphia Med. and Surg. Reporter*, Nov. 1879.)
4. HOWE, J. W.—On Excision of the Head of the Femur in Ununited Intracapsular Fracture. (*New York Medical Record*, December 13, p. 569.)
5. BRAUN, H.—On the Topographical and Anatomical Relations of a Case of Lympho-sarcoma of the Left Thyroid. (*Arch. für Klin. Chir.*, Band xxiv.)
6. LE DENTU.—Non Syphilitic Diffuse Peritonitis. (*Revue Mensuelle de Médecine*, etc., Nov. 10, 1879.)
7. KOCHER.—Nerve-Stretching for Neuralgia of the Trigeminal Nerve. (*Correspondenzblatt für Schweizer Ärzte*, 1879, No. 14.)
8. BROOME, G. W.—Some Uses of the Solid Rubber Bandage. (*St. Louis Clinical Record*.)
9. HARTMANN.—The Operative Treatment of Nasal Polypi. (*Deutsche Medicin. Wochenschrift*, 1879. Nos. 28-31.)
10. MORARI.—The Treatment of Strangulated Hernia by Electrolysis. (*El Siglo Médico*, No. 1356.)
11. HARRISON, REGINALD.—The Treatment of Mucous Polypus of the Nose. (*British Medical Journal*, Nov. 1879, p. 773.)
12. COPPINGER, C.—Primary Ether Anæsthesia. (*Ibid.*, Dec. 1879, p. 1079.)

1. *Herff on Successful Gastrostomy for Œsophageal Stricture.*—Dr. Herff, of San Antonio, Texas (*St. Louis Courier of Medicine*, for December 1879), reports the case of a child, 7 years old, who swallowed caustic lye one year before the operation, which was performed on the 31st of August 1879. Since the accident, she was not able to swallow solids and sometimes not even liquids; occasionally, for three or four days in succession she could not even swallow her saliva. The stricture was situated half way between the upper and lower ends of the sternum. The child was reduced in strength, and

failing from day to day. Chloroform was given, and the operation performed after the plan of Mr. Howse of Guy's Hospital. Both stages of the operation were performed very successfully, without fever, peritonitis, or any other bad symptom, notwithstanding a complication of malarial fever, and an injury by which the wound was partially opened and had to be stitched again. The child is now fed exclusively through the fistula, as she seems to dislike the act of swallowing, by which she very rarely succeeds in getting anything into her stomach. Solid food is cut fine and introduced through the fistula by laying it on the hole and pushing it in with a No. 12 Maisonneuve's India-rubber catheter, which, being very soft, gives her no pain. Liquids are simply poured in by an ordinary funnel inserted into the fistula. In that way she takes beef and other meat, generally raw, eggs, custard, farina, soups, gruel, milk, molasses, soft bread, and occasionally a little brandy. She is strong and can walk a mile a day, is always up and about, and, for two months, her mother has attended to the feeding. To give the food saliva, Dr. Herif has let her spit on it before ingestion, and allows her to swallow all the saliva she can, which unfortunately, she is only able to do at times. Her bowels are rather inclined to be costive. Her weight has increased, and all the functions are regular. If she stands up, the fistula is closed by a kind of valvular adhesion between the stomach and the peritoneal wall, but if she lies down or moves, the contents of the stomach will run out unless prevented by a large tracheotomy-tube, inserted with inner end upwards and closed with an India-rubber stopper. She wears the tube day and night without its causing her any inconvenience. She has neither eczema nor any other kind of irritation around the fistula.

2. *Morton on Amputation at the Hip with Use of Davy's Lever.*—The following case is reported in the *Glasgow Medical Journal* for December 1879. A man, aged 54, was admitted to the Glasgow Royal Infirmary with malignant disease of the middle third of the femur. Amputation at the hip having been decided upon, Dr. Morton performed the operation. The method adopted to control hæmorrhage was that recommended by Mr. R. Davy of London, compression of the common iliac artery by means of a lever passed into the rectum. In the *British Medical Journal*, November 1st, 1879 (see LONDON MEDICAL RECORD, December 15, 1879), Mr. Davy has an interesting paper on the subject, in which the method is carefully explained, and ten cases are recorded in which the lever had been employed. In the present case, Mr. Davy's plan was followed exactly, Dr. Foulis having charge of the lever. It was graduated in inches and was passed up to the tenth inch, this having been found to be the proper distance in the dead body. The control of the vessels was perfect. Dr. Morton commenced by tying the femoral artery and vein close to Poupart's ligament, but this was simply the method of operating on which he had determined before he had thought of adopting Davy's plan. Very little blood was lost, not more than five ounces, and that for the most part was distal oozing, although the limb had previously been bandaged from the ankle to the middle of the thigh and raised before commencing the operation. The lever used was made after Mr. Davy's pattern, from an old billiard cue. Although there was no hæmorrhage, the patient gradually sank, and died on the third day after the operation. The tumour was a spindle-celled sarcoma.

3. *Spear on Plugging the Posterior Nares.*—Dr. J. M. Spear, of Highland, Ohio, says (*Philadelphia Medical and Surgical Reporter*, November 1879) that probably the best device for this purpose consists of a piece of round, fine-linked gold chain, slightly flexible, and smooth, about one-tenth of an inch in diameter, and one inch or more in length, attached by one end to a fine waxed silk cord, a foot or more long. If such a chain be not procurable, a short strand of metallic cylindrical beads, or bird-shot, compressed on a cord, or small strips of sheet lead, wrapped on a cord, might answer the purpose, the essential qualities of a nasal gravitator being smallness, smoothness, weight, and slight flexibility. After providing an instrument, which can generally be done at any farm-house, the patient is then laid upon the back, the floor of the nose brought as nearly vertical as may be, and the loaded end of the gravitator lowered into the pharynx. Its arrival there will generally be announced by coughing, retching, or clearing up of the throat. The patient then being brought to an erect position easily hawks up the weight and carries it forward on the tongue, when the operation of plugging may be proceeded with as usual.

4. *Howe on Excision of the Head of the Femur in Ununited Intracapsular Fracture.*—Dr. J. W. Howe, at the New York Academy of Medicine (*New York Medical Record*, December 13, 1879), read a paper on the above subject, basing it upon a case which came under his observation in Charity Hospital, and had the following history. A female patient, aged 62, was admitted to the Hospital, March 1876. There was no hereditary taint of any kind, except the love of whiskey. Three months previous to her admission he received an intracapsular fracture of the neck of the femur by falling at the doorstep, and was treated eleven weeks by means of Buck's extension-apparatus at the Chambers Street Hospital, after which she was sent to Charity Hospital. When admitted to Charity the limb was not painful when at rest. A plaster-of-Paris splint was adjusted, and worn two months without improvement. It was removed, and Buck's extension with the long splint substituted and worn for six weeks, but without benefit. The limb was suspended by means of a broad bandage passing under the foot and up around the neck, and the patient placed on a pair of crutches, but that failed because of the pain produced, and the patient again took to her bed. Crepitus was as well marked as at the beginning of the treatment. The patient remained in bed eleven months afterward, without improvement. Finally, excision, with the patient's consent, was performed. When the joint was opened, about a drachm of what seemed to be inspissated pus mixed with a small quantity of bony debris was found. The neck of the femur was completely absorbed. There was nothing left of the globular head. There was also found a thin sharp spiculum of bone, about an inch in length, which belonged to the lower fragment. The head of the bone was easily loosened and removed, as well as the spiculum of bone and the broken-down material in the cavity of the joint. Buck's extension was applied, and a long side-splint; and the apparatus was kept in position six weeks. A plaster-of-Paris splint with a large fenestra was then adjusted, which enabled her to move about a little upon crutches. The plaster-splint was worn two weeks, when it was renewed because the first one produced some irritation at certain points. At the end of three months the wound was completely healed, the patient was able to get in and out of bed

without assistance, was free from pain, and able to walk with crutches. The knee-joint remained considerably stiffened, and was somewhat painful. Dr. Howe thought that trouble would have been avoided by operating twelve months previously, before the muscles and anatomical structures of the knee and ankle-joints became affected, as they necessarily would by disuse, etc. It was two years since the operation was performed, and the patient was in excellent physical condition, and able to go about comfortably by the aid of crutches. The muscles of the limb were gaining strength, and were in better condition than when the operation was first performed. The knee-joint remains stiff. There was no pain at the hip, except on forced flexion or abduction. Dr. Howe said that he thought the operation was justifiable in cases of intracapsular fracture of the neck of the femur occurring in persons in good general condition; under antiseptic treatment it was safe; and it afforded as complete relief as if the fracture had united in the beginning by firm ligamentous union. His argument was as follows. In intracapsular fracture of the neck of the femur, ligamentous union is the best result that can be obtained, no matter what treatment is adopted. In a large number of cases no union ever takes place, and in this class of cases the patients are helpless and bed-ridden from the beginning. Absence of attempt at union commonly arises from the following causes: 1. Superficial caries of the fractured ends of the bone, especially affecting the upper fragment in consequence of small blood-supply: 2. The necrosed portion of bone acts as a foreign body and excites inflammatory action in the adjacent bony tissue, and ultimately brings about complete destruction of the upper fragment; much of it is absorbed, but much remains: 3. Irritation and inflammation of the surrounding soft parts, produced by injuries inflicted by sharp spicula of bone belonging to the lower fragments. These were the important causes; but malnutrition, senile atrophy, non-apposition of fragments, etc., preventing repair of bones in other parts of the body, were not to be excluded, yet excision was performed for their relief. A good result had been obtained in the one case in which the operation had been performed, but that fact did not prove that success would attend all other operations of like character. He thought, however, that sufficient information had been gained to enable him to say that in certain well-defined cases of incurable intracapsular fracture of the neck of the femur, excision was a justifiable operation.

5. *Braun on the Topographical and Anatomical Conditions in Lymphosarcoma of the left Lobe of the Thyroid Body.*—H. Braun (*Archiv für Klin. Chir.*, Band xxiv) relates a case in which the following conditions were found. The muscles of the neck on the left side were confounded with the tumour, with the exception of a few segments of tendon. The trachea and œsophagus were not surrounded by the tumour, but were only considerably pushed away on the right side of the neck and much compressed. The large vessels of the left side of the neck, both arteries and veins, were completely surrounded by the mass of the tumour, their walls being confounded with it. The nerve-trunks also on this side, especially the vagus and phrenic nerves, lay within the tumour, as well as the sympathetic nerve, the paralysis of which had shown itself during life by narrowing of the palpebral fissure and of the pupil. The large arterial branches of the right side were so much compressed that the lumen of the external carotid artery measured only 0.2 centi-

mètre (0.08 inch) that of the internal carotid artery only 0.25 centimètre (0.09 inch). Braun points out that the extirpation of such small-celled and rapidly growing malignant tumours of the thyroid gland is only exceptionally permissible, whilst their removal by scraping them out is to be forbidden on account of the danger of bleeding from the large trunks. Palliative tracheotomy is only permissible with the employment of especially thin and long cannulae which, as well as the œsophageal sound, must be introduced only with great precaution, in order to avoid piercing the thinned walls of the œsophagus and trachea.

6. *Le Dentu on a Case of Non-Syphilitic Diffuse Periostosis.*—Dr. Le Dentu (*Revue Mensuelle de Médecine*, Nov. 10, 1879, p. 883) describes a very remarkable case of non-syphilitic diffuse hypertrophy of the bones of the face and skull, a singular affection, of which the text-books give but rarely any notice, and which, in the form here described, is certainly very unusual. The case itself is well worth reading as described by M. Le Dentu; though its nosology does not appear to us decided. His concluding propositions are these. 1. Diffuse periostosis of the bones of the face and skull is an affection characterised by benignant hyperplasia of the periosteum, ending inevitably in ossification. 2. It may appear at once in the bones of the skull, but most frequently it attacks first those of the face, especially the maxillary bones, and extends thence to the skull. Its development is usually symmetrical. 3. It is exceptional that it should commence in the inferior maxillary bone; it usually arises in the superior maxillary bone. 4. In all known cases save one, the disease was developed in youths or quite young people. 5. Its progress may be rapid in the period which precedes ossification. It is in its entirety generally slow, and it lasts for several years. 6. Not painful in itself, it may occasion suffering by giving rise to compression of the nervous trunks. 7. Frequent attacks of erysipelas have in one instance given to the disease a special physiognomy, but this particularity cannot be considered usual. 8. The gravest and most common consequences observed up to this date are, difficulty of alimentation, and of the articulation of sounds, obliteration of the nasal fossa, abolition of hearing, blindness accompanied by exophthalmia and suppurative destruction of the eyeball, various cerebral symptoms, mental alienation (meningeal apoplexy). 9. Death is generally determined by defective nutrition and cerebral disturbance. 10. No method of treatment can be recommended as being certainly efficacious. Notwithstanding, there seems reason to think that the thermo-cautery might act favourably, if employed in quite the first period of the illness. The diffusion of the lesions contra-indicates operation with the knife. The utmost that could be suggested would be to remove the diseased part while there is still only one bone invaded; but there is reason to fear that the operation would not prevent the disease from showing itself at other points, and from resuming its progress although for the moment interrupted.

7. *Kocher on Nerve-Stretching for Neuralgia of the Trigeminal Nerve.*—Kocher (*Correspondenzbl. für Schweizer Aerzte*, 1879, No. 14) describes the case of a man of aged 32, who had already suffered from acute neuralgia of the supra-orbital nerve for 14 years, and on whom exposure and stretching of the nerve was performed with immediate and permanent result. Total anaesthesia set in, and disappeared after three months without any return of the

pains. The author believes that nerve-stretching has a future also for the other branches of the trigeminus, even when they cannot be followed to the base of the skull.

8. *Broome on some Uses of the Solid Rubber Bandage*.—Dr. G. W. Broome (*St. Louis Clinical Record*) mentions the following uses for the solid India-rubber bandage. (See LONDON MEDICAL RECORD, January 15, page 25.) Rickety curvature of long bones in very young children; cases of early and slight genu valgum or varum, applied over a well-padded external or internal splint, as the case may demand; sprains and contusions, followed by swelling and ecchymosis. In the latter class of cases the bandage may be removed twice or thrice daily, and the parts bathed with stimulating liniment. He has also obtained good results from its use when the limb had become cold from disease and in paralysis.

9. *Hartmann on the Operative Treatment of Nasal Polypi* (*Deutsche Med. Wochenschr.*, 1879, 28-31, and *Med. Chir. Rundschau*).—The author attributes the development of these growths to purely mechanical causes, which act in the following manner. Separate swellings on the basis of a chronic hypertrophic catarrh of the whole mucous membrane which project beyond the surface, are pulled upon by the stream of air and secretion passing through the nostrils, especially on blowing the nose, and when they have reached a certain size they are drawn downwards by their own weight. On this account, the great majority of nasal polypiarise from the surface or margin of the turbinated bones, as a rule the middle one. Those with a long pedicle, which extend into the naso-pharynx and lower pharynx, arise from the posterior extremity of the middle turbinated bone. Most rarely polypi arise from the septum. For their removal the author employs Blake's snare, either with his own or with Zaufal's modification, using steel wire for the loop. After the loop is placed round the polypus the growth is either cut off or pulled out. If the polypi recur obstinately, the galvano-cautery should be used.

E. CRESSWELL BABER, M.B.

10. *Morari on Treatment of Strangulated Hernia by means of Electrolysis*.—Dr. Morari (*Siglo Medico de Madrid*, No. 1,356) records a case of reduction of a direct inguinal hernia by electro-puncture after other means had failed. The patient was a man about 50 years of age, who had suffered for many years from the above affection, and had never worn a truss. When Dr. Morari first saw him the hernia had been down twenty hours, and all the symptoms of strangulation were present, though not in a very alarming degree. Taxis was patiently and perseveringly tried without avail, and herniotomy was about to be resorted to, when as a last resource, the author determined to have recourse to electricity. The electro-magnetic machine of Breton was used for this purpose, one rheophore being applied *in ano*, while the other was placed in contact with a needle passed deeply into the tumour. The current was applied interruptedly at intervals of ten minutes. At the first application the hernia became considerably reduced in size. After the second the needle was removed, and taxis having been applied the whole mass was readily returned into the abdomen. A spica-bandage was then applied, and the patient made a rapid and uninterrupted recovery. The author recommends the above method of treatment whenever possible, before recourse is had to the *ultima ratio* of herniotomy. [The above procedure has been already suggested by Nélaton in his

Surgical Pathology, and by various writers on electro-therapeutics. Success in this case may have been due to simple puncture of the sac by the needle, and consequent escape of gas, quite as much as to the electric current. The author tried various methods of reduction, but does not appear to have tried one of the commonest and most obvious, viz., anæsthesia.—*Rep.*]
LITTON FORBES.

11. *Harrison and Miller on the Treatment of Mucous Nasal Polypi*.—Mr. Reginald Harrison (*British Medical Journal*, November 1879, p. 773) finds that, if the ordinary mucous polypus be punctured, the fluid drains away and causes the growth to shrivel, a process much expedited by subsequently injecting carbolic acid and glycerine into the nostrils. Mr. A. G. Miller (*ibid.*, Dec., p. 938) had previously applied rectified spirit in the form of spray to polypi with success, and thinks a preliminary puncture would greatly assist the action of the remedy.

12. *Coppinger on Primary Ether-Anæsthesia*.—In New York the first insensibility produced by ether, called 'primary anæsthesia', is fully recognised; and Mr. Coppinger (*British Medical Journal*, December 1879, p. 1,019), desires to draw the attention of the profession to its value. A man, aged 44, with urethral stricture, objected to anything painful being done without an anæsthetic. He had a weak heart, with basic bruit. Sir H. Thompson's dilator was introduced to the stricture. Ether was administered in the ordinary way, the patient having first been directed to hold his right hand upright, the elbow resting on the operating table. In a minute the arm dropped, the inhaler was at once removed, and the dilator screwed home, withdrawn, and a full-sized flexible catheter introduced. The patient felt no pain, and had no sickness. He left the hospital ten days subsequently. A fortnight afterwards he died quite suddenly, probably from the heart-disease. Had he been fully etherised, it is not improbable that another fatal case would have been added to the long list of deaths during anæsthesia.

R. NEALE, M.D.

OBSTETRICS AND GYNÆCOLOGY.

RECENT PAPERS.

1. AVELING, J. H.—A Complicated Case of Urethrovaginal Fistula. (*Obstetrical Journal of Great Britain and Ireland*, Jan. 1880.)

2. BRICHETTI, LUIGI.—Contribution to the Study and Treatment of Uterine Cancer. (*Gazzetta Medica Italiana, Provincie Venete*, 27 Dicembre, 1879.)

3. COMELLI, A.—Obstruction to Labour caused by Distension of the Fœtal Urinary Bladder. (*Wiener Medizinische Wochenschrift*, 1879, No. 37.)

4. DORAN, ALBAN.—Perforating Ulcers of the Ileum from Obstruction after Ovariectomy. (*Transactions of the Pathological Society*, 1879.)

5. DUNCAN, J. MATTHEWS.—On the Spontaneous Dilatation of the Virgin Uterus with Hæmorrhage. (*Obstetrical Journal of Great Britain and Ireland*, Jan. 1880.)

6. GALLARD, T.—Clinical Lectures on the Diseases of Women. (Paris: J. B. Baillière. 1879.)

7. INVERARDI, GIOVANNI.—The Indications for Turning. (*Annali di Ostetricia, Ginecologia, e Pediatria*, Dicembre 1879.)

8. KUCHER, J.—The Application of the Forceps to the After-coming Head. (*Wiener Medizinische Wochenschrift*, 1879, No. 32.)

9. MAYGRIER, CH.—Secondary Retrovaginal Carcinoma

from Malignant Ovarian Disease. (*Progrès Médical*, 1878, No. 33.)

10. MAYRHOFER, C.—The Corpus Luteum of Pregnancy. (*Wiener Medizinische Blätter*, 1879, No. 35, 36.)

11. RIBEMONT, ALBAN.—Researches on the Blood-tension in the Umbilical Cord before and after Ligature. (*Archives de Tocologie*, Oct. 1879.)

12. RIBEMONT, ALBAN.—On the Resistance and Mode of Rupture in the Membranes in the Human Ovum. (*Ibid.*, Nov. 1879.)

13. WING, C. E.—Complete Inversion of the Uterus. (Boston, 1879.)

3. *Comelli on Distension of the Fœtal Bladder as a Cause of Obstruction in Labour.*—A woman pregnant for the second time had noticed an unusual enlargement of the abdomen during the pregnancy. The expulsion of the head and shoulders was effected after a prolonged second stage of labour. The delivery of the thorax and abdomen was only effected after considerable and repeated efforts at traction had been made. The child, a male, was born alive. The umbilicus was open to the extent of three centimètres, and the vermicular movements of the intestines could be seen through the thin coats. The abdomen was distended, and measured 48 centimètres round. The child began to pass urine, a few minutes after its birth, in a thin stream, from the contracted orifice on the under surface of a hypospadiac penis. The urine continued to trickle without intermission for six hours. The child died forty-eight hours after its birth. At the *post mortem* examination the bladder was found to be hypertrophied and dilated, as also the ureters. The urethra was narrowed, and there was hypospadias. The development of the testicles was arrested. The prostate gland and the vesiculæ seminales were absent.

4. *Doran on Perforating Ulcers of the Ileum after Ovariectomy.*—Mr. Doran describes the *post mortem* appearances in the intestines of a patient, who died on the eighth day after undergoing ovariectomy. On opening the abdominal cavity, more than a pint of perfectly liquid feces was found diffused over the coils of the small intestine. There was a twist in the ileum, which caused an obstruction of the bowel. Below this point there was no trace of disease; above it, the mucous membrane of the alimentary canal from the stomach to the seat of obstruction was, in most parts, deeply injected. In the ileum, towards the seat of obstruction, there were signs of inflammation along the course of the larger blood-vessels, and on the edges of the valvulæ conniventes. In the middle of these inflamed streaks, small elongated ulcers could be detected. The perforating ulcer was nearly circular; its edges were clean cut, without any thickening. The muscular coat was exposed and also perforated, and in the serous coat was found a hole one-eighth of an inch in diameter. Perforation was commencing in several neighbouring ulcers, and accidentally completed (as the specimen showed) after death, when washed to free it from mucus and feces. There was no trace of ulceration in Peyer's patches. The specimen is now in the pathological series of the museum of the Royal College of Surgeons (No. 1201 B).

6. *Gallard on Diseases of Women.*—The second edition of this valuable work might almost have been called a new book instead of a new edition, so completely has it been remodelled, and so fully has it been brought abreast of the latest advances in the department it treats of. It is to be supplemented by a second volume, which will contain the diseases of menstruation and the diseases of the ovaries. To

those interested in the history of gynaecology, we can commend the long and remarkable chapter which Dr. Gallard devotes to the subject. He has divided it into four periods. The first period is the Greco-Roman from Hippocrates to Paul of Ægina; the second comprises the middle age from the seventh to the sixteenth century; the third period extends from the Renaissance to the nineteenth century; the fourth is contemporaneous with Recamier and the speculum. Dr. Gallard has gathered together an immense number of interesting facts relating to the history of gynaecology, and has displayed much erudition in the performance of the task.

7. *Inverardi on the Indications for Turning.*—Dr. Inverardi, after describing a number of cases in which turning was performed in the Maternity at Turin, arrives at these conclusions. 1. The belief entertained by some that in shoulder-presentations turning is always indicated, is erroneous. 2. Turning is indicated, given the favourable conditions, such as complete dilatation, the membranes intact or only recently ruptured, the uterus presenting occasional intervals of relaxation, the pelvis not so contracted as to offer an excessive resistance to the passage of the fœtal body, and especially of the head; and that the presentation is not fixed or wedged. 3. In cases of vertex or face-presentation, wedging of the presenting part renders turning impossible. This is true, though in a less degree, in shoulder-presentations. 4. When the uterus is contracted and insinuated round the fœtus, the obstetrician must act differently, according as the fœtus is dead or alive. If it be living, evolution may be favoured by traction on the arm or other means which do not imperil the life of the fœtus; greater confidence being placed in pelvic evolution since it has been shown to be easier, more frequent, and less dangerous to the mother than is generally believed. If this fail, embryotomy and the crotchet must be resorted to. If the fœtus be dead, the sooner embryotomy is performed the better. 5. In dorso-posterior positions, in performing embryotomy, it is preferable to decapitate; in dorso-anterior positions, it is better to eviscerate and divide the vertebral column. 6. When delivery is impossible after the above measures, turning may be used as a last resource.

8. *Kucher on the Application of the Forceps to the aftercoming Head.*—Dr. Kucher states that, in the clinic of Professor Späth, the forceps is applied to the aftercoming head when it is arrested at the brim of the pelvis, or on the floor of the pelvis. The life of the child is frequently saved by the timely application of the forceps when the head is thus arrested on the floor of the pelvis, and would necessitate the employment of severe traction to deliver it.

9. *Maygrier on Secondary Retrovaginal Cancer.*—A patient, aged 41, who had had ten children, had suffered from vomiting and obstinate constipation. She became emaciated. Finally, there was a continuous discharge of faecal matter from the vagina, with incessant retching. On examination, she was found to be four months pregnant. Abortion was induced, and she died. At the necropsy, the ovaries were found to be the seats of large cancerous masses, and the vagina and rectum were infiltrated with cancerous growth. The rectovaginal fistula had perforated the posterior lip of the os uteri. Small secondary cancerous masses were present in the liver.

12. *Ribemont on the Blood-Tension in the Umbilical Cord.*—Dr. Ribemont has succeeded most satisfactorily in showing the truth of the influence of

'thoracic aspiration' on the circulation in the umbilical cord before its ligation. This explanation was first given by Dr. Budin, and was contradicted by a German author named Schücking, who stated, that 'the facts advanced by Budin are exact as his theory is erroneous'. Ribemont has made a series of experiments with the manometer, which demonstrate the truth of the following propositions. 1. Tardy ligation of the cord benefits the child by the quantity of blood which is required for the establishment of the third circulation, that is, the pulmonary. 2. The immediate ligation deprives the infant of a quantity of blood, larger or smaller in proportion to the time of ligation, and it especially deprives it of blood if the ligation be applied before the child has respired. 3. The early ligation of the cord thus compels the abstraction of the blood necessary to establish the pulmonary circulation from the general circulation. The result is a diminution of arterial tension, to a degree equal to the third of the initial tension. 4. The cause of the penetration of the blood into the circulatory system of the child is the 'thoracic aspiration'. This is proved by the constant superiority of the pressure of the blood in the umbilical arteries to that in the umbilical vein. This tension is demonstrated by the manometer. Again, the thoracic aspiration, or a series of inspirations and expirations, is observed to produce considerable oscillations in the tension of the arterial and venous blood. Lastly, the uterine contractions are absolutely incapable to force any blood along the umbilical vein when the arterial pulsations of the cord have ceased. 5. Thoracic aspiration causes the sufficient and necessary quantity of blood to enter the pulmonary vessels; sufficient, because under these conditions the tension in the arterial system does not fall; necessary, because the arterial tension in the umbilical cord of a new-born child is never seen to rise after tardy ligation of the cord.

13. *Wing on Inversion of the Uterus.*—Dr. Wing relates the following case. The patient, a pluripara, was in labour forty hours from the time the waters broke, when she was delivered with instruments. She had the lochial discharge for about two weeks afterwards, but nothing more than natural. She staid in bed five weeks, during which time her urine dribbled away continuously. When she got up she found, after standing, that uterine flooding set in. Two months after her confinement she had a severe flooding. She continued losing blood in this way, until copious hot-water vaginal injections were given several times a day. Not being able to obtain Barnes's cup and stem-supporter, Dr. Wing used a common wooden stethoscope, a cushion of India-rubber being tied over the end applied to the uterus. The instrument was kept in place by elastic tubing tied to a waist-band. The edge of the stethoscope showed a tendency to cut into the uterine tissue, and was, therefore, replaced by a piece of wood of much the same shape, but solid, the upper end being a little concave, that it might not readily slip to one side. In the middle of the third night of wearing the stem, the patient was awakened by feeling 'something jump up inside', and she immediately found that the pressure from the apparatus had ceased. On examination in the morning, Dr. Wing found the uterus replaced, and the end of the instrument extending up into its cavity. A bougie was passed into the uterus to verify the reposition of the organ, and entered $3\frac{3}{4}$ inches. During the treatment, the patient took no anæsthetic, and no anodyne except $\frac{1}{4}$ grain of morphia on the third night. The repo-

sition in this case was fourteen months after the confinement. The case is a valuable illustration of the value of continued gentle pressure in cases of chronic inversion of the uterus.

FANCOURT BARNES, M.D.

DISEASES OF CHILDREN.

RECENT PAPERS.

1. BAGINSKY.—On Sudden Death in Childhood. (*Central-Zeitung für Kinderheilk.*, Sept 15, 1879.)
2. PARROT.—The Subpleural Ecchymoses in the Broncho-pulmonary Affections of Children. (*Rev. Mens. de Méd. et Chir.*, Sept.)
3. PARROT.—Spontaneous Cranial Perforations in Children of Early Age. (*Ibid.*, Oct. 1879.)
4. POTT.—The Acute Peritonitis of Later Childhood. (*Fahrbuch für Kinderheilkunde*, Sept. 1879.)
5. KORMANN.—On the Early Appearance of the Dangerous Symptoms of Disease in Children, especially Sucklings; and on the Value of Symptoms in the Prognosis of Children's Maladies. (*Ibid.*)
6. TAUBE.—The Antiseptic Treatment of Diphtheria, Scarlet Fever, and Measles. (*Ibid.*)
7. WEISZ.—On the Diagnosis and Treatment of the Different Degrees of Stricture of the Oesophagus in Children. (*Ibid.*)
8. SOLTSMANN.—On the Excitability of the Sensory Nerves in the New-born. (*Ibid.*, Oct.)
9. SCHMEIDLER.—Contributions to the Knowledge of Intermittent Fever in Childhood, and some of the correlated forms. (*Ibid.*)
10. BIEDERT.—New Account of the Behaviour of Fat in the Intestines of Children, and on Fat-Diarrhœa. (*Ibid.*)
11. DÖRNBUTH.—Cow's Milk as an Aliment. (*Ibid.*)
12. EPSTEIN.—On the Septic Diseases of the Mucous Membrane in Children. (*Archiv. für Kinderheilkunde*, vol. i, pt. 1.)
13. UFFELMANN.—On Bottle-Soup (*Flaschenbouillon*): its Dietetic Value and Application in Diseases of Children. (*Ibid.*, pt. 3.)
14. BAGINSKY.—On the Toxic Effect of Chlorate of Potash. (*Ibid.*)
15. MONTI.—General Survey of the more recent work in the Department of Therapeutics. (*Ibid.*)
16. GUÉNEAU DE MUSSY; CHEADLE; BARLOW.—On Enlargement of the Bronchial Lymphatic Glands with Relation to Whooping-Cough. (*Brit. Med. Journ.*, Oct. 25, Nov. 15, Dec. 6.)
17. BENNETT, HUGHES.—Case of Cerebral Hæmorrhage in a Child aged 22 months. (*Ibid.*, Nov. 1.)
18. MACDONALD; ARMSTRONG.—Cases of Swallowing Coins, fatal long afterwards. (*Ibid.*, Oct. 25, Nov. 8.)
19. CROCKER.—Case of Congenital Sebaceous Disease of the Head and Neck. (*Ibid.*, Nov. 22.)
20. ABERCROMBEE.—Case of Multiple Sarcoma of Bones of Cranium in a Child aged 4 years. (*Ibid.*)
21. DRUMMOND.—Case of Lateral Curvature of the Spine depending upon Unilateral Pleuropneumonia. (*Ib.*)
22. KIDD.—Ovariectomy in a Child aged 3 years. (*Ibid.*, Nov. 29.)
23. WARNER.—Recurrent Headaches in Children associated with Pathological Conditions. (*Ibid.*, Dec. 6.)
24. STUART.—Case of 'Angina Ludovici' in a Child aged 6 months. (*Ibid.*, Dec. 13.)
25. SANSOM.—Case of Tuberculous Pericarditis in a Child aged 6 years. (*Ibid.*, Dec. 27.)
26. CHEADLE.—Case of Cerebro-spinal Meningitis in a Child aged 8 years. (*Ibid.*, Dec. 20.)
27. KULNER.—The Salicylates of Calcium and Bismuth in the Diarrhœa of Children. (*St. Thomas's Hospital Reports*, 1879.)

28. SMITH, LEWIS.—Treatment of Pertussis by Inhalation. (*American Journal of Medical Sciences*, Oct. 1879.)

29. SIMON.—Arsenic in Diseases of Children. (*Le Progrès Médical*, Oct. 25.)

30. VAN ARLINGEN.—Case of Bone-Syphilis in an Infant, accompanied with Pseudo-paralysis and a peculiar Intermittent Laryngeal Spasm. (*Philadelphia Medical Times*, Oct. 11, 1879.)

31. THEED.—Diarrhoea, Entero-Colitis, and Cholera Infantum. (*Archives of Medicine*, New York, Oct. 1879.)

32. GRAY.—Chorea and Choreiform Movements in Hysterical Children. (*Ibid.*)

33. HARKIN.—On the Milk-Feeding of Children at Nurse. (*Dublin Journal of Medical Science*, Jan. 1880.)

2. *Parrot on Subpleural Ecchymoses*.—The main purport of this paper is to draw attention to the frequent occurrence of subpleural ecchymoses in children, in fatal cases due to causes other than mechanical violence. Dr. Parrot points out that, in many acute pleuro-pulmonary affections complicating especially measles and diphtheria, small subpleural hemorrhages are met with as a characteristic feature, and rarely in children under one year old. He further indicates the value of this information to medical jurists, who have hitherto been apt to regard the occurrence of these petechiæ as evidence of death from mechanical impediment to the respiration.

3. *Parrot on Cranial Perforations*.—This is another valuable contribution from the pen of Dr. Parrot to the history of osseous lesions in children. He describes certain soft spots that are frequently to be felt on the skull in infants, which are due to more or less complete absence of bone-tissue, the dura mater and periosteum being in contact. In size, they vary from a twelfth of an inch to nearly an inch across. They extend from the inner surface of the skull to the outside. The regions of the skull where they occur are very constant, and depend very much upon whether they have commenced before or after birth. Thus the former especially affect the antero-inferior regions, and along the sagittal suture, as those that first appear after birth are most numerous on the occipital and parietal regions, usually symmetrical, but occasionally more marked on the right side. The cause of these lesions Dr. Parrot distinctly shows to be primarily pressure of the brain in the syphilitic diathesis. The pressure in the foetus is especially brought to bear on the anterior part of the skull from the position of the head in the uterus, and, after birth, the prolonged maintenance of the dorsal decubitus determines the weight of the brain to the occipital region.

5. *Kormann on the Import of Symptomatology in the Prognosis of Diseases of Children*.—Dr. Kormann draws attention to the fact that certain symptoms constantly recurring in widely different affections of children must be recognised as precursors to a fatal issue of the disease. The chief of these signs are vomiting, asphyxia, dyspnoea, convulsions, paralysis, coma, collapse, cyanosis, anaemia, hyperpyrexia, and wasting.

13. *Uffelmann on Bottle-Soup*.—Dr. J. Uffelmann has found the following preparation to be of value in the diet of children. He takes from 250 to 500 grammes of beef or veal, quite free from fat, and cuts them into pieces of the size of a bean, and places them in a clean bottle, which is corked and placed in a saucepan of warm water and allowed to simmer for thirty-five to forty minutes, at the end of which time

the bottle-soup (*flaschenbouillon*) is ready. By this means he maintains that the meat is made to yield the whole of its nutritive materials free from water, etc. In cases of extreme exhaustion, when only a small quantity of nutriment can be taken or absorbed, such a preparation is extremely valuable. The author has found it of great service in the gastric enteritis of children under three years of age, as well as in other extreme adynamic conditions.

16. *Gueneau de Mussy and Others on Pressure on the Vagus as a Cause of Pertussis*.—The question of the influence of an irritation of the vagus by the pressure of enlarged bronchial glands is summed up for and against by Dr. Noel Gueneau de Mussy and Dr. Barlow, respectively. Dr. Barlow maintains that enlargement of the glands is not constant in pertussis, and that enlargement both acute and chronic may occur without paroxysmal cough. Dr. Gueneau de Mussy ascertained by physical signs the existence of enlarged glands in all cases of whooping-cough observed by him, and found them in all neuropsychoses. But Dr. Barlow doubts the possibility of satisfactory diagnosis of enlarged bronchial glands during life. Dr. Cheadle shows that the idea of pressure on the vagus as a cause is not novel, and criticises Dr. Gueneau de Mussy's support of it, showing the constant existence of the enlargement of the glands in all cases where there is prolonged inflammation of the bronchial mucous membrane in children, though a paroxysmal cough is by no means as invariable.

17. *Bennett on Cerebral Hemorrhage in a Child*.—Dr. Hughes Bennett places on record the history of a case of a child, aged 22 months, which came under his care in a moribund condition, and without any history obtainable, except that it had been seized with fits shortly before. The left side of the head was markedly larger than the right, and the right side of the face and body was paralysed. Brief paroxysms of choreic spasms attacked the right side at intervals, and death followed in two days after being first seen. The left pupil was dilated, the right being normal. *Post mortem* examination revealed two large irregularly shaped effusions of blood beneath the pia mater, occupying nearly the whole of the frontal and parietal region, of about a quarter of an inch in thickness, and disintegrating the cerebral substance to the extent of about half an inch. The brain was elsewhere normal. The left lung was collapsed, and the pleura filled with pus. The kidneys were enlarged and amyloid. The other organs were healthy. No cause, whether injury or disease, could be ascertained to account for this extremely rare condition.

25. *Warner on Recurrent Headache*.—In a paper read before the Hunterian Society, Dr. F. Warner indicates certain conclusions which he has arrived at from the study of fifty-eight cases of recurrent headache in children. He shows that the children were almost entirely of a nervous, excitable character, often presenting a neurotic history, and mostly females. The symptom especially occurred in excitable, melancholy, and fretful subjects when sleep was disturbed; they often complained of vague pain, had variable appetite, often a hacking cough, but no physical signs of disease of any organ. The symptoms are mainly referable to the nervo-muscular system, to the urine and teeth, the latter being commonly flattened, the result of tooth-grinding. The urine, of a high specific gravity, loaded with urea, and containing urohaematin, resembles the condition met with in chorea, with which the paroxysmal headache is often associated.

26. *Sansom on a Case of Tubercular Pericarditis.*—Dr. Sansom relates the particulars of a most interesting case of tubercular pericarditis in a child, aged 6 years, fairly healthy in appearance, and with no history of rheumatism, who was admitted under his care with symptoms of pericarditis with effusion and bronchopneumonia. In a month scarcely any signs of pericarditis remained, and nothing beyond a peculiar torpor was noticed; she subsequently developed pleurisy with effusion, and died nearly three months after admission. The pericardium was greatly thickened, the parietal layer profusely studded with miliary tubercles; the visceral layer was smooth, and about one and a half ounce of yellow fluid was found in the cavity. There was no endocarditis. Tubercular deposits were found in the lungs, liver, spleen, and brain.

30. *Smith on Treatment of Pertussis by Inhalation.*—The spray of the following mixture, inhaled from the stream atomizer, three times daily, and from two to five minutes at a sitting (R. Acidi carbonici, ʒss; potassæ chloratis, ʒij; glycerini, ʒij; aquæ, ʒvj; M.), Dr. Lewis Smith found to be of great advantage in a number of cases, and recommends its adoption as an adjunct to other measures employed.

34. *Harkin on Milk-Diet for Sucklings.*—Dr. Harkin combats the prevalent idea of diluting cows' milk, when that is used in the bringing up of children, and he attributes much of the weak and puny condition in hand-fed infants to the watered milk, saying that 'children nourished with fresh milk present a rosy, robust, happy and contented appearance'. Contrasting the percentage composition of human and of cows' milk, he maintains there is no justification for the dilution that is almost universally recommended.

W. H. ALLCHIN, M.D.

PHYSIOLOGY.

CIRCULATION AND RESPIRATION. RECENT PAPERS.

1. *FRANÇOIS-FRANCK.*—Reflex Action on the Heart and Blood-vessels, produced by Irritation of the Sensitive Fibres of the Pneumo-gastric and Superior Laryngeal Nerves. (*Comptes Rendus de l'Acad. des Sciences*, 5 Mai, 1879.)

2. *SETSCHENOW.*—On the Bodies which are Combined with Carbonic Acid in the Blood. (*Centralblatt für die Med. Wiss.*, 1879, p. 369.)

3. *LUDWIG and LUCHSINGER.*—On the Innervation of the Heart. (*Centralbl. für die Med. Wiss.*, 1879, p. 404.)

4. *KRONECKER.*—On the Inability of the Apex of the Heart of the Frog to summate Electric Irritations. (*Archiv für Anat. und Physiol., Physiol. Abtheilung*, 1879, p. 379.)

5. *WALLER, A.*—On the Blood-tension in the Auricles of the Heart during Irritation of the Cervical Spinal Cord. (*Archiv für Anat. und Physiol., Physiol. Abtheilung*, 1878, p. 524.)

6. *LANGENDORFF, O.*—On the Respiratory Centre. (*Centralblatt für die Med. Wiss.*, 1879, p. 913.)

7. *WOLFF, J.*—On Variations in the Quantity of Blood contained in the Extremities. (*Archiv für Anat. und Physiologie, Physiol. Abtheil.*, 1879, p. 161.)

1. *François-Franck on the Reflex Action on the Heart and Blood-vessels, caused by Irritation of the Pneumogastric and Superior Laryngeal Nerves.*—Irritation of the central end of the pneumogastric and superior laryngeal nerves has been long known to produce a reflex arrest of the respiration; but, as the experiments of François-Franck appear to show,

a reflex action upon the heart and circulation takes place at the same time. In regard to the heart, in animals feebly anæsthetised, a reflex arrest or retardation occurs; on the side of the circulation one observes a vaso-constrictor action, and in consequence an elevation of blood-pressure. This double effect explains (according to the author) the difference between the result noted by various observers to follow irritation of the central end of the vagus.

2. *Setschenow on the Bodies which combine with Carbonic Acid in the Blood.*—The material which, in the red blood-corpuscles, unites with carbonic acid, is a salt-like combination of hæmoglobin with an alkali, in which the hæmoglobin plays the part of a weak acid (following the opinion of Berthelot). In the three varieties of blood studied by Setschenow, the quantities of carbonic acid chemically combined in this salt correspond to the quantities of alkali estimated by Bunge to be present in the blood-corpuscles of each variety. The mode of absorption of the carbonic acid corresponds to a combination of the gas, not with a free alkali, but with a feebly acid saline solution. With carbonic acid, the compound 'hæmoglobin-alkali' reacts in two different ways; (1) after the manner of all salts formed by weak acids (the carbonic acid removing from the hæmoglobin a part of its base); (2) as a combination in which the acid (hæmoglobin) is partially decomposed by the carbonic acid. As regards the serum, the problem is even more difficult. Since the chemical absorption of carbonic acid here also depends on the pressure, and varies according to the quantity of alkali contained in the specimen of serum, it is not unnatural to suppose that the body which contained the carbonic acid has the characters of a salt of a feeble acid, and that consequently in the serum there must be a substance equivalent to hæmoglobin. According to the opinion of Sertoli, the equivalent of hæmoglobin in the serum is to be found in the globulins. The author has, however, given up this theory, and rather considers that in the serum the carbonic acid is combined with a substance which represents the globulins united to an alkali. In this compound the globulins have not originally the properties of an acid, nor do they acquire them under the influence of carbonic acid. The looseness of the combination formed by the carbonic acid with the body 'globulin-alkali' may be compared to the degree of affinity which exists between the red blood-corpuscles and the carbonic acid. But when the greater portion of the carbonic acid is extracted by the aid of a pump, there arrives a moment when the globulin loses the power to play the rôle of an acid—a power which it borrows from the carbonic acid gas. The alkali then becomes free, and is able to unite itself in an intimate way, and forms a staple compound, with a portion of the acid, which cannot consequently be extracted by means of the pump.

3. *Ludwig and Luchsinger on the Innervation of the Heart.*—Reserving a description of the methods of investigation for a future communication, the authors give the following as the results of their experiments. 1. High temperatures produce paralysis of the ganglion-cells of the heart, but when the temperature is reduced their excitability is restored. Immediately before the appearance of paralysis, and immediately after the return of pulsation, the vagus is very excitable. Thus the restraining fibres are more resistant as regards heat than the motor. 2. In hearts filled with saline solution the vagus remains active. 3. But its power of action is less, the greater the intracardial pressure; the greater the stretching

of the heart-walls, the stronger the irritation of the motor elements. 4. The higher the pressure, the more rapid the pulsations; and this law holds good not only as regards the entire heart, but also for separate portions, in particular for the heart when deprived of its sinuses, and for the apex, which is free from ganglia. When the lower half of the ventricle of a frog's heart is tied to a double cannula it remains pulseless, so long as it is left to itself; but when one branch of the cannula is united to a pressure-bottle, filled with a solution of a neutral salt, and the solution is allowed to pass through the ventricle, there begins, sooner or later, a series of pulsations, which follow each other the more rapidly, the higher is the pressure, and which instantly cease whenever that pressure is removed. 5. In the phenomenon of Merunowicz, pressure plays also a part but it does not certainly constitute the sole condition. 6. The apex of the heart of certain fish, when removed from the body, pulsates without pressure, without the intervention of blood, serum, or alkali, and exhibits a series (thirty to forty) of beats spontaneously. After it has come to rest, a new series of pulsations may be produced by feeble mechanical irritation.

4. *Kronecker on Electric Irritation of the Heart of the Frog.*—In a recent work, Basch believes he has proved that electric irritations act in virtue of their frequency, as well as in virtue of their intensity, in the heart of the frog (summation of electric irritations), and that in this respect the heart behaves as the spinal cord does. This opinion Kronecker denies. On the contrary, he holds that electric irritations cannot become summated in the cardiac muscles. On the heart of a rabbit the electric irritations were without effect when they took place about ten times in the minute; the strength of the current had to be slightly increased in order to obtain an effect. The same irritations, more frequent, repeated twice a second, had exactly the same effect. In consequence, it is impossible to admit that a summation of electric stimuli takes place in the cardiac muscle.

5. *Waller on the Blood-tension in the Auricles of the Heart during Irritation of the Spinal Cord in the Cervical Region.*—If the heart of a rabbit be laid bare, and the cervical spinal cord be stimulated by means of an induction-coil, the left auricle may be seen to distend, to become filled with blood, and, finally, to cease contracting, while the two ventricles and the right auricle continue to pulsate. The same phenomenon is observed when the aorta is ligatured near its origin. To study the conditions of this phenomenon, it is necessary to measure the pressure of blood in the auricle. The spinal cord of a rabbit having been divided at the level of the second vertebra, and artificial respiration commenced, the heart was laid bare, and a small cannula connected with a manometer introduced into the left auricle. The blood-pressure in that cavity was thus readily measured. In these conditions, if the cord be irritated by electric currents, or if the aorta be ligatured at its origin, the mercury rises in the manometer, and the pressure varies from 20 to 30 millimètres of mercury. Waller thinks that it is to this increase of pressure that the arrest in the auricular pulsations is due, the auricle, which is overloaded with blood, being unable to fulfil its functions. This elevation of blood-pressure may be due to one of two causes; either to an increase of pressure in the pulmonary veins, or to an incompetence of the left auriculo-ventricular valve, allowing of blood from the ventricle into the auricle. This latter hypothesis cannot be admitted, for the pressure in the carotid is 100 millimètres, showing so

considerable a difference between the auricular and carotid pressure, as to shut out the idea of a free communication between auricle and ventricle. Besides, when artificial respiration is suspended, the carotid pressure persists, while that in the auricle falls enormously. It is, therefore, probable that the increase of pressure is due to an increase of blood-pressure in the arteries and veins of the pulmonary circulation; and other experiments confirm this hypothesis. If the blood-pressure in the auricle be measured at the moment when the chest is opened, the pressure falls to so low a point that the manometer measures it with difficulty. In order to make it rise, it is necessary to irritate the cervical spinal cord, but often this irritation does not suffice. It is then necessary to ligature the aorta; these two causes act together, and the pressure rises to such a point as to produce arrest in the auricular contractions. Measuring simultaneously the blood-pressure in the two auricles, one sees that in the right auricle the pressure never rises so high as in the left. The maximum in the right is 22 millimètres of mercury, while that in the left reaches a height of 36 millimètres. It is not possible to raise the pressure in the right auricle sufficiently high to cause arrest of its pulsations.

6. *Langendorff on the Respiratory Centre.*—According to the well-known experiments of Longet, Volkmann, and Schiff, when the medulla oblongata is divided along the median line, the respiration remains regular and quiet. It has, therefore, been concluded that there are two respiratory centres in the medulla, each of which stands in connection with the corresponding side of the body. If, after removal of the muscles of the neck in a rabbit, and division of the membrane obturatoria, the head be bent forwards and the medulla so exposed divided down the middle line, the respiration continues its former rhythm; but if now the vagus on one side be cut, the respirations on that side of the thorax become slower, while the respiratory movements on the other side remain unaffected. The movements of breathing on the two sides are thus different as regards rhythm, and this irregularity may persist for many hours. When both vagi are divided, this peculiar phenomenon is still more easily noticed. The one side of the thorax breathes at a different rate, and with a different depth to the other. While the one side distends, the other stands still. The abdomen no longer moves regularly. When the belly is opened the liver may be seen to be pushed, now to the right and now to the left, and when the diaphragm is laid bare the unequal play of the two sides is most marked. By the use of tambours, these extraordinary movements can be readily registered. If the central end of one of the vagi be irritated, the respiratory movements on that side are arrested, while the other half of the diaphragm continues to move as formerly. It therefore follows that each vagus is in connection with the respiratory centre of its own side, and that the latter governs the corresponding half of the diaphragm.

7. *Wolff on the Variations in the Quantity of Blood contained in the Extremities.*—The author endeavoured to measure the variations in the quantity of blood by five different methods. Examination of the pulse, and of the retinal arteries by means of the ophthalmoscope, gave but very unsatisfactory results. Measurement of the temperature of the limb gave, on the contrary, very useful indications. Elevation of the arm produced, in one case a diminution of temperature of 1 deg. cent. in fifty

minutes, in another of 4 deg. in half an hour, and in a third of 5 deg. (9 Fahr.) in one hour. The hand raised in the air had a temperature of 28 deg. 6 cent. (83.48 Fahr.); when it was allowed to hang down it assumed a temperature of 36 deg. 8 cent. (98.24 Fahr.), or 8 deg. cent. above its former height. Other experiments made by the method of Mosso (plethysmograph), and of Gröbenschütz, induced Wolff to believe that the arm when raised contains 42 centimètres of blood less than when it is depressed; but, of course, these figures are not absolute.

SPECIAL SENSES. RECENT PAPERS.

1. CYON.—Experimental Researches on the Functions of the Semicircular Canals. (*Thèse de Paris*, 1878.)

2. MUSEHOLD, A.—Experimental Researches on the Visual Centre in Pigeons. (*Dissert. Berlin*, 1878; *Centralblatt für die Med. Wiss.*, 1879, No. 14, p. 245.)

1. *Cyon on the Functions of the Semicircular Canals.*—Flourens' description of the phenomena which follow section of the semicircular canals, given in 1828, is well known. It may be summed up in the statement, that section of each canal produces a movement of which the direction is always the same as that of the canal cut. In 1866, Vulpian and Brown-Séquard repeated the experiments of Flourens, and explained the disorders of movement on the ground of auditory vertigo. Since this date this question has been the subject of much investigation, and in this thesis the author gives a *résumé* of former work as well as the results of his own experiments. He examines in the first instance the theory of Böttcher, who considered the phenomena observed by Flourens to be the result of lesion of the cerebellum, basing his opinion on the want of precision in the operation. But Cyon points out that the symptoms of lesion of the cerebellum which one occasionally observes in pigeons do not appear for some days after the operation, when it has been badly performed; that the disorders of movement differ considerably according to the canal which has been divided; and, finally, that if, instead of dividing two symmetrical canals, one operates on the one side, for example, on a horizontal canal, and on the other on a vertical one, there is no disorder of movement to be observed. From these considerations, it is evident that accidental and secondary lesion of the cerebellum is not the cause of the phenomena of Flourens. In the second place, Cyon attempts to determine whether a relation exists so intimately as is said, between these phenomena of Flourens and those which are known as the phenomena of Purkinje. (In vertigo, which is produced when one is whirled many times round one's own axis with a certain rapidity, surrounding objects appear as if they were moving in the opposite direction.) According to a hypothesis suggested by Crum Brown, Bruer, and others, the semicircular canals are the organs of sensation for the acceleration of movement or the organs of the sense of rotation, the sensations arising there from the tendency of the endolymph to execute a movement in the opposite direction to the motion of the membranous canal during rotation of the head. Thus, according to this hypothesis, the vertigo of Purkinje depends, like the phenomena of Flourens, on this excitation of the semicircular canals. But this interpretation falls to the ground before the fact that one can produce the vertigo of Purkinje in animals in whom double section of the entire eighth pair has been performed, that is to say, in which all communication between

the brain and the semicircular canals is cut off. The vertigo of Purkinje does not depend on the semicircular canals, and has very little to do with the phenomena of Flourens. The chief fact in the phenomena of Flourens consists in the difference of the movements which are produced after section of the different semicircular canals; the section of two symmetrical circular canals produces oscillations of the head and movements of the entire body in the plane of the canals operated on. This lesion, this excitation (for the author does not think that there is any paralysis, but rather excitation of the nerve-terminations) of each semicircular canal gives rise to oscillation of the eye-balls, the direction of which depends on the canals chosen. Passing, then, in review the theories which have been held regarding our notion of space, and considering that on the one hand our ideas concerning the disposition of objects in space depend above all on unconscious sensations of innervation or of contraction of the oculo-motor muscles, and, on the other hand, that each excitation, however slight, of the semicircular canals produces contractions in these muscles, the author is led to conclude that the nervous centres in which the fibres distributed in the canals terminate are in intimate physiological relation with the oculo-motor centre, and that, in consequence, their excitement was able in an important manner to influence our notion of space. Reasoning from this point, the author arrives at the conclusion that the semicircular canals are the peripheral organs of the sense of space. The sensations arising from excitation of the nervous filaments in the semicircular canals serve to form our notions of the three dimensions, the sensations of space of each canal corresponding to one of these dimensions. With the aid of these sensations, there becomes formed in the brain the unconscious representation of a space-ideal, upon which all the perceptions of our other senses are hung. The disorders of movement which follow lesion of the canals proceed from vertigo produced by the disagreement between the space seen, and the idea of space formed by the sensations due to the semicircular canals. But what are the conditions of normal excitation of the nervous terminations in the canals? The author believes that they are to be found in the otoliths, each movement of the head producing a displacement of these bodies, and consequent mechanical irritation. It is, therefore, necessary to distinguish in the eighth pair two nerves having special functions—the cochlear nerve, or nerve of hearing, and the ampullar nerve, or nerve of the sense of space. Researches on the real origin of the eighth pair have shewn that they arise from two roots, the one from a nucleus of small ganglionic cells in the floor of the fourth ventricle, and the other from a nucleus of large cells placed in the cerebellar peduncles. It is this latter root which represents the nerve of the sense of space.

2. *Musehold on the Visual Centre in Pigeons.*—These experiments, which were made at the suggestion of Leyden, consisted of partial extirpations of the brain made in part by the action of a jet of water, after the method of Goltz, and in part by the use of a curette. The latter process gave the most precise results, as in the former the visual symptoms were almost invariably complicated with passing paresis of one of the extremities. Extirpations carried out in the anterior half of the hemispheres were without effect, whilst those performed on portions in the posterior half, invariably determined visual derangements on the opposite side. These disorders were

recognised by various signs. The pigeon did not show fear when objects, which normally gave rise to such a reaction, were brought in front of the eye affected. When the sound eye was closed the animal was unable to find its food, nor did it then show any tendency to fly. The disorders of vision were never persistent; but it is true that the ablation of the entire posterior half of one hemisphere was in no instance performed. When, after vision returned, a portion of the posterior-half of the opposite hemisphere was extirpated, there was no bilateral blindness, such as would have occurred had the hemisphere which was the subject of the second operation taken the place of the first; but, on the contrary, vision then became abolished on the side opposite to the second lesion. It may thus be concluded, that, when the vision returned after the first operation, it was only the portion in the near neighbourhood of the lesion which supplied the place of the extirpated portion.

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LARYNGOLOGY.

RECENT PAPERS.

1. FRAENKEL.—On Miliary Tubercle of the Pharynx. (*Berlin. Klin. Wochenschrift*, No. 1, p. 9, Jan. 6, 1879.)
2. LANG.—Contributions to the Pathology and Therapeutics of Spasm of the Glottis. (*Correspondenz-Blatt für Schweiz. Aerzte*, No. 4, Feb. 15, 1879.)
3. KRIEG.—Spontaneous Laryngeal Fistula in a Case of Laryngeal Perichondritis. (*Archiv. für Path. Anat. und Physiologie*, Band lxxii.)
4. BENNETT.—Changes resulting from Syphilitic Disease of the Larynx, and from Tracheotomy. (*Dublin Jour. of Med. Science*, March 1879.)
5. ZAWERTHAL.—The Practice of Local Anæsthesia in Endolaryngeal Operations. (Conferenza tenuta al Congresso Medico di Pisa, nel Settembre 1878.)
6. MEYER, RUDOLF.—Phlyctenular Inflammation of the Vocal Cords. (*Berliner Klinische Wochenschrift*, No. 41, October 1879.)
7. OPPENHEIMER.—Impaction of False Teeth in the Larynx. (*New York Medical Journal*, 1879.)
8. KNIGHT, F. T.—Retropharyngeal Sarcoma. (*St. Louis Medical and Surgical Journal*, Sept. 1879.)
9. GRUBER.—On a partially Extraventricular Sacculus Laryngis. (*Virchow's Archiv*, Band 78, 1879.)
10. LANGE.—A New Method of Removing Adenoid Tumours. (*Annales des Maladies de l'Oreille, du Larynx, et des Organes Connexes*, Tome v, No. 5, 1879.)
11. MASSINI, O.—On the Treatment of Laryngeal Croup. (*Revista Clinica di Bologna*, No. 4, e 5, 1879.)
12. MARTEL, E.—A Case of Paralysis of the Crico-Thyroid Muscles. (*Annales des Maladies de l'Oreille, du Larynx, et des Organes Connexes*, Tome v, No. 5, 1879.)
13. BUROW.—Supplement to a paper on Paralysis of the Crico-Arytenoidei Postici Muscles. (*Berliner Klinische Wochenschrift*, Dec. 29, 1879.)
14. HAYES.—A Case of Bilateral Paralysis of the Posterior Crico-Arytenoid Muscles. (*Dublin Med. Journal*, Jan. 1, 1880.)
15. BLACKWOOD.—The Treatment of Post-Nasal Catarrh. (*Philadelphia Med. Times*, vol. x, No. 312, 1879.)
16. GLASGOW.—A few Suggestions on Anæsthesia of the Larynx. (*St. Louis Medical and Surgical Journal*, No. 37, 1879.)
17. HARTMAN.—Laryngeal Hæmorrhage. (*Ibid*.)
18. WAGNER.—A Case of Laryngeal Hæmorrhage. (*Ibid*.)

1. *Fraenkel on Miliary Tubercle of the Pharynx*.—The patient was a man, aged 35, who had for some time suffered from pulmonary phthisis, but had not

had syphilis. The tubercles occurred as grey granulations on the soft palate and quickly ran into ulceration, which healed under the influence of cod-liver oil, and local application of glycerine and morphia. But around the cicatrices thus left fresh tubercles soon appeared, and as quickly passed into ulceration. The ulcers presented ragged edges, surrounded by a red areola; their surfaces were covered by an unctuous cheesy material.

2. *Lang on Spasm of the Glottis*.—The author has successfully relieved cases of spasm of the glottis in young infants by subcutaneous injection of curare, chloroform being first administered to the little patient to give time to undress him and to restrain his cries. The injections of curare have no other inconvenience than that of provoking a local inflammation, which, however, the author has never found end in suppuration.

3. *Krieg on a Case of Spontaneous Laryngeal Fistula*.—The patient was a woman, aged 28, the subject of pulmonary phthisis. The fistula was situated a little to the left of the middle line, just above the sterno-clavicular articulation. Air and purulent secretion from the lungs escaped through it on coughing. A sound could be passed through it into the interior of the larynx. Considerable tumefaction of the vocal cords existed, so that it was impossible to see the parts of the larynx below. A second fistula subsequently formed. At the *post mortem* examination, the fistula was found to open into the larynx, between the thyroid and cricoid cartilages. Ulceration of the mucous membrane and several abscesses were discovered in the larynx. There was advanced tuberculosis of both lungs.

4. *Bennett on Changes in the Larynx after Syphilis and Tracheotomy*.—The author describes the *post mortem* appearances of the larynx and trachea in a man, upon whom four years previously tracheotomy had been performed for the relief of œdema of the glottis, consequent upon syphilitic laryngitis. He had never been able to dispense with the use of the cannula till his death, which was caused by an attack of pleurisy. The tracheal wound was situated just below the thyroid cartilage. It presented neither thickening nor ulceration. The epiglottis was reduced to an unequal and rugose fibro-cartilaginous tongue. The arytenoid cartilages were displaced, one over the other. The cricoid cartilage was ossified in its posterior part, and below it the trachea was narrowed. The œsophagus, at a spot level with the larynx, presented a fibroid thickening, the result of former inflammation.

5. *Zawertthal on Local Anæsthesia of the Larynx*.—Zawertthal's experiments upon dogs, to obtain a local anæsthesia of the larynx, either by inhalation or by direct application of chloroform, ether, morphia, hyoscyanine, hemlock, etc., have led him to the following conclusions. 1. It is very seldom that complete local anæsthesia can be obtained. 2. The attempts made at producing it are attended by great risks of grave constitutional effects or serious local inflammation. 3. These dangers and complications differ according to the substances employed; very great danger of poisoning if solution of morphia; of laryngitis, if chloroform. The author has not met with better success in practice. He has been able to obtain an imperfect degree of anæsthesia only in twenty-seven out of forty-seven cases, and complete anæsthesia in five. In fifteen cases, he was obliged to abandon his attempts to produce it. The cases in which such attempts have best succeeded are those of division of cicatricial bands, which are them-

selves almost devoid of sensibility. The cases where anæsthesia would have been most useful, for example, in the extirpation of polypi, are those where it has been most unsuccessfully tried for. These experiences decide the author against the practice of local anæsthesia. He recommends instead the observance of the following rules: 1. To trouble the patient as little as possible by preliminary manœuvres; 2. To calculate with the greatest precision the curve which should be given to the instrument, so as to arrive quickly and surely at the site of operation; 3. To re-assure the patient that the instrument will not cause suffocation; 4. To introduce the instrument surely, gently, but without hesitation to the spot to be operated on; 5. To have so exact an idea of each individual case that the operation may be performed with the greatest rapidity.

6. *Meyer on Phlyctenular Inflammation of the Vocal Cords.*—Dr. Rudolf Meyer relates a case of phlyctenular inflammation of the vocal cords. The patient was a girl 18 years old. She consulted him on June 3rd for intense hoarseness, slight irritative cough, and general impairment of health. Eight days before, she had noticed a trifling hoarseness, which rapidly passed into complete aphonia, accompanied by irritation, but by no pain in the larynx. There were some amount of fever, increased thirst, loss of appetite, etc. She had never before been ill, and had only suffered three years previously with slight hoarseness and cold. As her mother was at the time suffering from syphilitic laryngitis, suspicion arose that the affection of the daughter was of a similar nature. Accordingly, laryngoscopic examination was made. Both vocal cords appeared slightly red and swollen; on the left vocal cord a whitish punctated erosion was discovered, and, on the right, the epithelium was similarly affected in a corresponding situation. The pharynx and mouth were normal. The treatment consisted of insufflations of calomel. On June 6th, the condition of the vocal cords was but little changed, but there was some phlyctenular inflammation of the eye, and an eruption of herpes on the right nostril and upper lip. On June 9th, the laryngeal symptoms were much improved; the erosions were scarcely perceptible, the voice had returned, and the herpes on the nose and lip were drying up. On the 10th, the patient was discharged well. Dr. Meyer remarks that he thinks it pardonable that he should have mistaken the case at first sight for one of secondary syphilis of the vocal cords, especially as the mother was suffering from that affection. The circumscribed punctated superficial erosions on the cords were not, however, familiar to him as a syphilitic lesion; but it was not until the appearance of the vesicular eruption upon the cornea, nose, and lip, that he was able to make a correct diagnosis. He goes on to remark that cases of eruption of herpes have been noticed in the mouth and pharynx, and chronic eruptions of psoriasis, eczema, and lupus, corresponding to these affections of the skin, have been described as occurring in the larynx, but he is not aware of any observation of an acute eruption of herpes in that situation.

7. *Oppenheimer on Impaction of False Teeth in the Larynx.*—Dr. Oppenheimer, in the *New York Medical Journal* for 1879, reports a case of impaction of false teeth in the larynx. The patient presented herself in great distress, and in a hoarse laboured whisper and by signs conveyed the intelligence that she had swallowed part of a set of false teeth which she had been wearing for some time

after the plate had been broken in two. The laryngoscope showed below and in front of (behind?) the epiglottis a narrow red line nearly of the colour of the surrounding tissues just above the vocal cords, and extending transversely across them, being slightly further back on the right side than on the left. Dr. Oppenheimer could form no idea of the size and exact position of the plate; the only assistance the patient was able to give was, to show on her finger that it was two inches long. Repeated attempts at dislodgment with the aid of various forceps were made, and were attended with almost suffocative attacks of spasm of the glottis. As the tooth-plate could not be removed, Dr. Oppenheimer resolved to try to turn it. He first pushed the forceps in contact with the presenting part as far to the right as possible, and tried to raise that side of it, but without success. He next passed it in the same manner as far to the left as he could, and, using some force, succeeded in turning up the side of the plate. A violent suffocating spasm now ensued, and, as the patient appeared in danger of expiring, he forcibly tore the plate out, cutting through the left aryteno-epiglottidean fold. The plate contained two posterior molars, with a vacant space into which a third natural molar was intended to fit. It was of the shape of an irregular triangle; one part had evidently been wedged between the vocal cords and so had prevented complete closure of the glottis during the attacks of spasm. Twenty-four hours after the removal of the plate, an ecchymosed spot was seen on the right vocal cord, and a clean cut through the left aryteno-epiglottidean fold. There were slight hoarseness, and pain in swallowing. Four days later, the cords looked natural, the cut was healed, and only very slight hoarseness remained.

8. *Knight on Retropharyngeal Sarcoma.*—Dr. F. T. Knight of Boston, U.S., describes in full a case which had come under his own observation, and refers to sixteen other cases collected from various sources. He thinks that several of these cases, although stated to have been sarcomatous, were not of this nature. He is likewise of opinion that many cases which have been reported as fibromata are probably sarcomata. Pedunculated growths he advises to be removed by ligature. Growths with a broad base when situated high up may be dissected out, although when at the side of the pharynx it may be necessary to tie the external carotid before their extirpation; when situated low down, little can be done except pharyngotomy. Tumours in the latter situation have on two occasions been removed by subhyoid pharyngotomy; one with a successful, the other with a fatal, termination.

9. *Gruber on a Partially Extraventricular Sacculus Laryngis.*—The sacculus extended above the upper border of the thyroid cartilage, its upper blind extremity bulging as a somewhat globular swelling through the thyro-hyoid membrane, immediately behind the muscle of that name. The author gives a very detailed description and some minute measurements of the sac, and illustrates his communication by a drawing of the parts. He has met with three similar cases (*Archiv für Anat., Phys., und Wissen. Med.*, 1874, S. 606; *Archiv für Path., Anat., und Phys., und für Klinische Medicin*, Band 67, Berlin, 1876; *Beobachtungen an der Menschl. und Vergleichenden Anatomie*, 1879, D. 1). In two of these cases the abnormality occurred on the left side; and in one on both sides. In the present case it was on the right side. Dr. Gruber points out the homology of this partially extraventricular condition

of the sacculus laryngis in man with the normal condition of the sac in the young gorilla and orang-outang. He considers a knowledge of the occasional existence of such a condition of the sacculus of importance, as he believes such an abnormality might produce an air-containing tumour in the thyro-hyoid region, which would appear and disappear on certain movements of the neck.

10. *Lange on a New Method of Operating on Adenoid Tumours.*—M. Lange has recently employed a new instrument for removing adenoid tumours in the naso-pharyngeal cavity. It consists of a metallic stem curved at the end. To this end is attached a ring, situated in the same vertical plane, and sharp all round its circumference. The instrument is introduced through the mouth into the naso-pharyngeal cavity and placed in a vertical position against the posterior wall. By keeping the instrument pressed against the posterior wall, and at the same time moving it from side to side, and advancing it further into the naso-pharyngeal cavity, the mass of the tumour is cut away both from the posterior and superior walls of the cavity. Any portions of the tumour which may be situated at the sides is, according to the author, of secondary importance, and may afterwards be removed by cauterisation. M. Lange thinks that operating by this method is less painful, more complete, sooner finished, and attended with less hæmorrhage than by any other. He does not think there is any danger of wounding the Eustachian tubes.

11. *Massini on the Treatment of Laryngeal Croup.*—The use of lactic acid in membranous laryngitis was first recommended by Weber. He regarded it as a most valuable remedy, and says that since he has used it he has never had occasion to resort to tracheotomy. Dr. Massini advocates the same plan of treatment, and brings forward four cases of his own, and five of his brother's, to show the good results that follow its use. [As none of the cases, however, excepting one which terminated fatally in spite of the treatment, appear to have been of a very grave nature, they do not furnish conclusive evidence of the superiority of lactic acid over other remedies. As regards the solvent action of lactic acid, several observers have shown that it is inferior to chlorate of potash, lime-water, and carbonate of soda.—*Rep.*]

12. *Martel on Paralysis of the Crico-thyroid Muscles.*—The subject of this paper was a man, aged 23, who lost his mother, brother, and sister from phthisis, and himself showed signs of tuberculosis. His voice was hoarse and all his words were pronounced on the same low note (Do²). The laryngoscope showed nothing abnormal, except that the vocal cords did not retract nor contract sufficiently. When the patient was preparing to speak, the vocal cords approached, but incompletely, the glottis taking a fusiform shape. The vocal cords remained about two millimètres apart, their white edges appearing sharply defined against the darkness of the glottic opening. When the patient pronounced the 'Do', 'a fine transparent membrane was seen to detach itself from the free edge of the vocal cords, and then the glottis took a greyish tinge, the white edge of the cords did not move and had not moved; and, on account of the wide separation between the cords, the membrane could be seen vibrating, a black line marking the chink between the membrane on the one side, and the membrane on the other.' The author says it was the first time he had ever seen the larynx pronouncing a note so low. The patient was seen every day for a month,

and the same phenomenon presented itself. The author has only partially succeeded in distinguishing the membrane in other patients whom he has examined for the purpose, as during the emission of so low a sound the posterior part of the glottis is all that can be seen. He remarks that it is difficult to prove by the laryngoscope whether there is a membrane vibrating on the glottis, or whether the appearance may not be produced by the vibrations of the cords themselves. At any rate he has seen in the larynges of bodies, where the vocal cords have been approximated by artificial efforts at phonation, the vocal membrane absolutely the same as in the patient who is the subject of these observations.

13. *Burow on Paralysis of the Posterior Crico-arytenoid Muscles.*—The author has collected and shortly tabulated ten cases, in addition to the thirty-six published by him in the *Berliner Klinische Wochenschrift*, No. 33, 1879.

14. *Hayes on Paralysis of the Posterior Crico-arytenoid Muscles.*—The author relates a case of bilateral paralysis of these muscles, chronic laryngitis being also present. The affection was of syphilitic origin. Great improvement followed the local applications of solution of chloride of zinc and galvanism, and the internal use of iodide of potassium. The author remarks that the only affection for which it might be mistaken is ankylosis of the arytenoid cartilages to each other or to the cricoid; or the binding together of the arytenoid cartilages by bands of adhesions.

15. *Blackwood on the Treatment of Postnasal Catarrh.*—The author advises the cleansing out of the naso-pharynx with a solution of salt and water at a temperature of 100 deg. Fahr. by means of the anterior nasal douche. All crusts are to be removed. He has seen no bad effects follow the use of the douche. Compound tincture of benzoin, watery extract of witch-hazel, galvanism, and faradisation, have been found by the author of great benefit. Iodoform and carbolic acid have failed in his hands. Adenoid tissue and granulations he removes by the galvano-cautery or curette. As general remedies, mercury and iodide of potassium are recommended in syphilitic cases, iodide of iron in strumous. The diet is to be nourishing and non-stimulating. Veal and pork are forbidden, also the use of tobacco. The author believes the catarrh to be contagious even 'when positively non-syphilitic'. He has seen it arise in healthy children at school sleeping with others affected; also in newly married persons.

16. *Glasgow on Anæsthesia of the Larynx.*—The results of Dr. Glasgow on the production of local anæsthesia, when read with those of Professor Zaverthal, are very interesting. Dr. Glasgow finds, with the last-named observer, that although Dr. Bernatzie's solution of morphia and chloroform certainly produces local anæsthesia, its application is accompanied with very grave risks, and on this account is not likely to become popular. He has recently experimented with carbolic acid of the strength of 1 to 5 or 6, and hydrate of chloral 30 grammes to an ounce, and found these solutions most successful. The latter is, however, inferior to the former. He quotes several cases out of many others to show the good result of this treatment. His conclusions are these. 1. Carbolic acid in strong solutions produces anæsthesia of the larynx and relieves pain. The application causes an intense burning which lasts about twenty seconds; the anæsthetic condition continues about two hours. 2. The hydrate of chloral in strong solution applied

to the mucous membrane produces anæsthesia. The application causes a severe burning pain, lasting over a minute; the anæsthesia does not continue longer than one half-hour. 3. The strength of the solution necessary to produce anæsthesia varies somewhat in different persons. 4. It is recommended that the weaker solution be applied first, and this can be followed by the stronger solution. The first application is the only one causing pain. 5. No bad results, either constitutional or local, have followed the application of strong solutions of carbolic acid.

17. *Hartman on Laryngeal Hæmorrhage.*—Dr. Hartman agrees with those who consider that laryngeal hæmorrhage may take place without necessarily being connected with traumatic causes or inflammatory action, and that in such cases the hæmorrhage may prove to be a question of serious import. He quotes an interesting case, which, had no laryngoscopic examination been made, and the bleeding point consequently not discovered, would undoubtedly have been diagnosed as one of bronchial hæmorrhage. There was no disease apparent to explain the sudden rupture of the capillary vessel, but Dr. Hartman supposes it to have been probably due to infarction or to fatty degeneration of the capillary walls.

18. *Wagner on a Case of Laryngeal Hæmorrhage.*—Dr. Wagner describes a case similar to the above, in which the hæmorrhage was profuse and frequent. There was no lung mischief. When the laryngoscope was used, blood could be distinctly seen oozing from the left ventricular band and left ventricle. The author has had several other cases of laryngeal hæmorrhage, similar to the above in character and symptoms. W. J. WALSHAM.

SYPHILOGRAPHY.

RECENT PAPERS.

1. BAUDIN.—A Case of Gonorrhœal Endocarditis. (*Recueil de Mémoires de Médecine, de Chirurgie, et de Pharmacie Militaires*, Sept., Oct., 1879, p. 525.)
2. BULKLEY, L. D.—Two Cases of Chancre of the Lip, probably acquired through Cigars. (*Archives of Dermatology*, 1879, No. 4, p. 343.)
3. DIDAY and HORAND.—Mucous Patches at a late Period of Syphilis. (*Lyon Médical*, Dec. 7, 1879.)
4. DRYSDALE, C. R.—Syphilitic Urethritis and Vaginitis. (*Med. Press and Circular*, Nov. 26, 1879.)
5. DUPLAY.—Syphilitic Stricture of the Rectum. (*Gaz. des Hôpitaux*, Oct. 28, 1879.)
6. ELDRIDGE.—Topical Use of Ergotine in Granular Urethritis and Gonorrhœa. (*New York Medical Journal*, Oct. 1879, p. 360.)
7. GAMBERINI.—On Venereal Diseases. Clinica Sifilodermopatica di Bologna. (*Giornale delle Malattie Veneree e della Pelle*, Fascic. iv, 1879.)
8. GOSSELIN.—The Treatment of Gonorrhœal Ophthalmia. (*Gazette des Hôpitaux*, Dec. 25 and 27, 1879.)
9. GOSSELIN.—A Case of Syphilitic Chancre, with Strumous Bubo, Roseola, and Eczema. (*Ibid.*)
10. GUGGENHEIM.—Tubercular and Syphilitic Disease of the Lungs. (*L'Union Médicale*, Dec. 27, 1879.)
11. MOLLIERE, D.—Syphilitic White Swelling (*tumeur blanche*) of the Elbow. (*Lyon Médical*, Dec. 21, 1879.)
12. OTIS, F. N.—Lectures on the Physiological Pathology of Syphilis. (*Boston Medical and Surgical Journ.*, Oct. 31, Nov. 6 and 13, 1879.)
13. SCHNITZLER, JOH.—Syphilis of the Lung and its relation to Pulmonary Phthisis. (*Die Lungensyphilis und ihr Verhältniss zur Lungenschwindsucht.*) Wien, 1880.

14. VIDAL and MARTINEAU.—Gurjun Balsam in Gonorrhœa and Vaginitis. (*Journal de Thérapeutique*, Dec. 25, 1879.)

1. *Baudin on Gonorrhœal Endocarditis.*—A dragoon, aged 25, during the tenth week of his first attack of gonorrhœa, was admitted into hospital on July 8. The following day the patient had headache with shivering and constipation, which symptoms were attributed to malaria and treated with quinine. The man, however, continued to grow worse. On July 14, he complained of palpitation: attention being thus directed to the heart, an examination was made, and the area of cardiac dulness found to be increased; but there was no bulging of the intercostal spaces. On auscultation, a murmur involving the end of the first sound and the whole of the second was heard at the base. Endocarditis was diagnosed; the quinine was left off, and opium administered. A mustard-poultice was applied over the heart. Temperature 103.2 deg. Fahr.; pulse 110, intermittent. On the 15th, there was no alteration. On the 16th there was violent shivering. The murmur had become 'rasping' in character and louder than on the preceding day. Fremitus could be perceived on placing the hand over the cardiac region. A blister was applied, and infusion of digitalis ordered internally. Temperature 104 deg. Fahr., pulse 110. The man continued in much the same state until the 21st, when the fever abated and the pulse became more regular. On the 23rd the pulse was 80; on the 25th it was only 65, and there was no fever; the cardiac dulness had diminished; the murmur was still audible, but was not nearly so loud as before. On the 26th, the patient was convalescent; the pulse was almost regular, and only a slight murmur, limited to the second sound, could be heard over the base of the heart. The urethral discharge had slightly increased from the slight gleet, which was all that was present on the patient's admission into hospital. In connection with this case M. Baudin remarks that the cardiac trouble, in all the other recorded cases of this affection, is reported to have occurred about the fourth week after the appearance of the urethral discharge. The murmur in this case indicated implication of the aortic orifice mainly, whereby insufficiency and slight narrowing were caused. This lesion, according to Marty, is that most generally observed in cases of blennorrhagic endocarditis. The dragoon whose case has just been related had never had rheumatism, nor any chest-disease whatever; nor was there a family history of any of those affections. The author thinks there are only two other cases on record in which the heart became implicated during gonorrhœa without any other affection (especially rheumatism) having intervened, to which the cardiac mischief could be attributed. One case was reported by Lacassagne in 1873; the other by Marty in 1877. In the five cases reported by Desnos in 1877, gonorrhœal rheumatism had also been present.

2. *Bulkley on the Probable Acquirement of Syphilis through Cigars.*—Case 1. Dr. J., aged 33, consulted Dr. Bulkley on October 26, 1877, on account of an obstinate sore of the upper lip. Six weeks before, the patient had first noticed an ulcer on the left side of the upper lip, and a fortnight later the right side of the same lip became sore. When first seen by Dr. Bulkley, there was an oblong ulcerated patch half an inch long by one-third inch wide, with a clean red surface, and secreting a small quantity of sticky fluid. This sore was decidedly hard. On the right side of the lip was another and smaller

ulcer, with a white patch running from it towards the corner of the mouth. There were mucous patches on the palate and right tonsil; the submaxillary glands were enlarged and painful; a macular eruption was present on the arms and back. No other lesion could be discovered, either on the penis or elsewhere, and the patient denied ever having had any venereal sore. Dr. J. was a great smoker of cigars, particularly of those made in the United States. He had not kissed any one out of his own family for a long time. *Case 2.*—Dr. F., aged 40, had suffered for ten or fifteen years from a fissure of the lower lip. Six weeks before he came to Dr. Bulkley, the fissure became more painful and began to discharge serum, which had not happened before. A fortnight later, the submaxillary glands on the right side enlarged. An eruption on the skin subsequently appeared. On examination, Dr. Bulkley found an ulcerated mass on the lower lip, rather to the right of the middle line. There was not much hardness, which was accounted for by the fact that the patient had already taken mercury. There was marked adenopathy at the right angle of the lower jaw, and also in the middle line; and a general papulo-erythematous syphilide. There had been no venereal exposure for many months. Dr. F. was a considerable cigar-smoker, and very careful investigation in this, as in the preceding case, failed to discover any other cause for contagion. Three months previously, Dr. F. had received a present of some cigars from the son of a cigar-maker who was under treatment for sores on his penis. Dr. Bulkley remarks that he has himself repeatedly seen cigar-makers moisten the outside leaf with their saliva; and that he had lately a cigar-maker under his care with syphilitic ulceration of the mouth, who acknowledged having followed the same practice.

3. *Diday and Horand on Mucous Patches at a late period of Syphilis.*—At a meeting of the Société Nationale de Médecine de Lyon, M. Diday mentioned the case of a man who, thirty-four years after having contracted syphilis, and without fresh contagion, showed mucous patches around the anus, and lenticular papules on the glans penis. The patient had previously been free from signs of syphilis for seventeen years. M. Horand said he had seen mucous patches ten, and even twenty, years after contagion.

5. *Duplay on Syphilitic Stricture of the Rectum.*—Strictures of the rectum may be divided into traumatic, inflammatory, and organic. Fournier has pointed out the true mode of origin of syphilitic stricture by the development in the rectal wall of an abnormal tissue, which he calls ano-rectal syphiloma. This eventually becomes transformed into a retractile fibrous tissue upon which medicines have no action, whereas in the earliest stage it would seem that specific remedies may bring about a cure. The case which gave rise to these remarks was that of a woman with a stricture only admitting a female catheter. It was proposed to perform rectotomy by means of the thermo-cautery. M. Duplay does not place much faith in dilatation except at an early period of the disease, and when aided by specific general treatment.

6. *Eldridge on the Topical Use of Ergotine.*—Dr. Eldridge of Yokohama, after an operation for stricture of the bulbous urethra, found, by means of the endoscope, a granular condition of the urethral mucous membrane for about two inches. A gleet discharge was also present. Ergotine (Lorjean's)

was applied by means of an ointment syringe, and the patient kept recumbent for an hour afterwards. After six applications on alternate days the gleet had entirely disappeared, and there was no trace of granulations to be discovered. The author has also used ergotine in other cases with advantage.

7. *Gamberini on Venereal Diseases.*—In gonorrhœa, Gamberini condemns the use of balsamic drugs and of injections. He thinks that the use of these is one cause of the prolonged duration of the disease in some cases. The affection, according to Gamberini, should be treated as an ordinary inflammation by ordinary means, especially by purging. He gives a pill composed of gamboge and extract of henbane three times a day. The effect of this is usually three or four evacuations, and the number of pills should be regulated so as to produce three or four actions every day. Emollient drinks, rest, and simple diet are the only other means necessary. Under this treatment, patients were in hospital twenty days on an average. Equally good results followed in private practice. When epididymitis appears, frequent bathing with cold water or lead-lotion is recommended. When pain is intense, extract of belladonna should be applied locally; tepid or cold poultices are also of value. When the testis is compressed by fluid in the tunica vaginalis, puncture with a lancet gives relief. After puncture, the temperature not unfrequently rises to 40 deg. C. (104 F.) the same night, but this rise of temperature is rarely repeated. Ten cases of left epididymitis gave an average of thirty-five days' stay in hospital; while fifteen cases where the right epididymis was involved gave an average of only twenty days. The author is unable to account for this difference. *Gonorrhœal Arthritis.*—When the disease is acute, general and local antiphlogistic treatment is indicated; when chronic, hydrochlorate of baryta, and repeated subcutaneous injections of tepid water generally do good. Quinine and salicylate of soda are useless in true gonorrhœal arthritis. *Soft Chancres.*—Iodoform in glycerine (8 in 40) is the best application. When the sores are torpid, powdered iodoform alone should be applied. *Indurated Sores.*—Gamberini has noticed that these are usually of longer duration in the female than in the male. *Mucous Patches.*—These lesions should be treated by the continuous application of lint soaked in cold water, and repeated painting with carbolic acid, pure or diluted, according to the amount of hyperæmia present.

8. *Gosselin on the Treatment of Gonorrhœal Ophthalmia.*—M. Gosselin recommends the instillation of a solution of alcohol (1 in 4) every two hours, and frequent bathing of the eye with the same solution. If this application be employed early it offers the best chance of success, and ulceration of the cornea is less likely to occur than under any other mode of treatment.

9. *Gosselin on a Case of Syphilis with Strumous Bubo and Common Eczema.*—A patient had an indurated primary sore, and also a suppurating bubo due to scrofula. An attack of common erythematous eczema on the chest and elbow afterwards appeared. Subsequently, after the incubation period of syphilis had elapsed, a specific roseola showed itself in due course. The case is put forward by M. Gosselin on account of the association of common with specific phenomena. It is useful from a diagnostic point of view, but is otherwise unimportant.

11. *Mollière on Syphilitic White Swelling of the Elbow.*—A woman, aged 45, was admitted into the

Hôtel-Dieu de Lyon on September 5, 1879. The left elbow was found to be swollen and the arm wasted. Movement of the joint was difficult, and caused much pain. The elbow was seamed with lines of ulceration—the result of the actual cautery, which had been applied in the country without any good effect. The ulcerations had a characteristic serpiginous aspect which M. Mollière, at the first glance, recognised as syphilitic. The right elbow was the seat of arthritis with thickening of the synovial membrane, and had the appearance of a confirmed white swelling. The joint was not altogether immovable. Iodide of potassium in increasing doses was prescribed, and carbolised cotton applied to the ulcers of the left elbow. After one day's treatment the pain was relieved; in less than ten days the right elbow was well, and the left elbow was no longer painful, and the ulcers had to a great extent cicatrised. At the end of a month, all that remained was a slight stiffness of the joint. The woman had contracted syphilis about four years previously. Pain was first felt in the elbow in March 1879. Syphilitic white swellings are very rare. Some eminent authorities doubt their existence apart from scrofula. M. Mollière, however, considers that the present is an undoubted example; first, because local treatment had failed; second, because specific general treatment brought about a rapid cure without any special local treatment, and without the joint having been kept at rest by splints or other apparatus.

13. *Schnitzler on Syphilis of the Lung and its Relation to Pulmonary Phthisis.*—Syphilis of the lung is generally considered to be a very rare disease. Some authors wholly deny the existence of a specific affection of the lung as a consequence of syphilis, whilst others admit a syphilitic disease of the lung, but doubt the possibility of its being diagnosed during life. Having given special attention to this subject of late years, Dr. Schnitzler is of opinion that the lung is attacked by syphilis much more frequently than is thought to be the case, and that a correct diagnosis can in many instances be arrived at if due care be taken, and all the circumstances connected with the case carefully considered. The author then goes on to detail full particulars of five cases which came under his own observation. It is especially worthy of note that in each of these the laryngoscope revealed co-existing syphilitic affections of the larynx, the discovery of which proved of great assistance in tracing the true origin of the lung-disease. The laryngoscopic appearances observed in these five cases are shown by drawings. In all, speedy improvement took place under anti-syphilitic remedies. Under the head of pathological anatomy, the diffused, and the circumscribed or gummatous forms of lung affection are described at considerable length, the description being taken, for the most part, from the writings of Virchow, Wagner, Lancereaux, Wilks, Moxon, and other authorities. As to the period after infection at which the lung is most frequently attacked, Dr. Schnitzler, from an examination of published cases, found that from two to five years after infection was the most usual. His own cases give an average of from four to six years; but cases are on record where the lung affection did not manifest itself until ten or even twenty years after infection. Besides these graver forms of disease, which are generally tertiary in character, Dr. Schnitzler believes that syphilis also frequently shows its influence under the form of a bronchial and lung catarrh during the first few months after

syphilis has been contracted. In many of his cases this was associated with laryngeal and tracheal catarrh, and was equally amenable to specific treatment. In considering the symptoms of syphilitic lung-disease the author remarks that in his experience the larynx is nearly always implicated as well, giving rise to pain in the throat, difficulty in swallowing, hoarseness, and sometimes complete loss of voice. On physical examination, the middle and lower lobes are found affected more frequently than the apices. One or both lungs, or only a part of a lung, may suffer. The diagnosis must be made from a careful consideration of the subjective signs, and the changes ascertained by physical examination of the chest, the course of the disease, the influence of treatment, the history, and the coincidence of syphilis in other organs. The general symptoms are mostly those common to phthisis and other chest-diseases, and are therefore only of value in corroboration of other signs. The same may be said of the results of auscultation and percussion. Nevertheless, a close examination of all the points connected with each individual case will in many instances lead to a correct conclusion. The course of syphilitic disease is generally slower, and the whole organism is less severely affected, than in phthisis. When signs of pulmonary mischief are met with in an otherwise healthy-looking individual, syphilis must at least be thought of and inquired about. If the patient be descended from healthy parents, and there be no family history of chest-disease, or if any sign of syphilis can be found about his body, syphilitic disease of the lung becomes probable; and this probability becomes greater if the signs of disease be found chiefly in the middle or lower lobes while the apices of the lungs remain free. The probability becomes certainty if, by means of the laryngoscope, syphilitic disease of the larynx can be made out. The prognosis depends, of course, on the discovery of syphilis as the origin of the disorder. If the true cause be overlooked a fatal termination will probably take place; but if the syphilitic nature of the affection be recognised, and if appropriate treatment be promptly and energetically carried out, recovery may take place even in cases apparently the most hopeless. The principles of treatment are the same here as in syphilitic disease of other organs. Mercury and iodine are the only drugs to be depended upon. Iodine may be tried first, and, if no good result follow, mercury in some form may be substituted for it or combined with it. The author generally begins with a daily dose of two grammes (30 grains) of iodide of potassium or of sodium, and gradually increases the quantity. To very anæmic patients, iodide of iron may be given. Tincture of iodine and iodoform have been occasionally given, but Dr. Schnitzler has not found any better or quicker result from these than from other preparations of iodine. Mercury is best introduced by inunction, the grey ointment being used. Internally, corrosive sublimate may be given. Inhalations of the same salt, which, in ulceration of the throat and larynx, are often very useful, have proved useless when the lung is affected. Zittmann's decoction in some cases is of great service. When there are ulcers of the larynx, local applications of iodine with glycerine, etc., by means of a brush or in the form of spray may be resorted to.

14. *Vidal and Martineau on Gurjun Balsam in Gonorrhœa and Vaginitis.*—Vidal has continued the use of this drug since 1877 with constant success. The following is his formula for gonorrhœa. Gurjun

balsam, 4 grammes (1 drm.); gum arabic, 4 grammes (1 drm.); infusion of star anise, 40 grammes (10 drms.); syrup of catechu, or of poppies, 30 grammes (7½ drms.) To be taken daily, in two doses, at meal-times. If a glass of wine be swallowed immediately afterwards, the remedy causes no unpleasant effect; it may be given at any period of the disease. Pain generally ceases after forty-eight hours, and the patient is cured in from eight to twenty days. In vaginitis, tampons of wool soaked in equal parts of gurjun balsam and lime water are employed. Martineau has not had good results from the local application of gurjun balsam in vaginitis. He thinks the balsam slow and uncertain in its action, and much prefers iodoform dissolved in almond oil.

ARTHUR COOPER.

OPHTHALMOLOGY AND OTOLOGY.

RECENT PAPERS.

1. ZAUFAI.—On the Plica Salpingo-Pharyngea. (*Archiv für Ohrenheilkunde*, November 1879.)
2. ZIEM.—On some Uncommon Affections of the Velum Palati. (*Monatsch. f. Ohrenhk.*, October 1879.)
3. BREMER, V.—A Case of Tinnitus audible objectively. (*Monatsch. für Ohrenheilkunde*, Oct. 1879.)
4. HARTMANN.—Diseases of the Ear occurring in Typhoid Fever. (*Zeitschrift für Ohrenheilkunde*, Band viii.)
5. POLITZER.—The Operative Treatment of Aural Polypi. (*Wiener Medizin. Wochenschrift*, 1879, No. 16.)
6. WARLOMONT.—On Enervation of the Eyeball. (*Annales d'Oculistique*, Nov., Dec., 1879.)
7. MARTEN, GEORGES.—A New Method of Performing Sclerotomy. (*Ibid.*)
8. CUIGNET.—Ocular Sympathies. (*Recueil d'Ophthalmologie*, Jan. 1880, pp. 1, 11.)
9. JAVAL.—On the Physiology of Reading. (*Annales d'Oculistique*, Nov., Dec., 1879.)

1. *Zaufal on the Plica Salpingo-Pharyngea.*—In an interesting and exhaustive paper (*Archiv für Ohrenheilkunde*, Nov. 1879), Professor Zaufal considers this structure (1) in regard to its anatomy, and (2) in regard to the appearance it presents in the living subject. This fold, which extends downwards to a greater or less distance from the posterior lip of the pharyngeal orifice of the Eustachian tube, along the lateral to the posterior wall of the pharynx, is, according to the author, of much greater practical importance than the plica salpingo-palatina which forms the anterior lip of the Eustachian orifice. The plica salpingo-pharyngea may be examined in the living subject by four different methods. (1.) *By Direct Inspection through the Fauces.* On depressing the tongue, the fold may be seen (especially in phonation or during retching) on either side behind the posterior pillar of the fauces. By drawing the velum forwards with a hook the folds may (during the act of retching) be seen to meet in the median line; and if the hook be applied without producing retching, they may often be traced to their termination in the posterior lips of the Eustachian orifices. The much greater thickness of the fold, as seen in the living subject, than as found *post mortem*, the author explains by supposing that at the height of the act of retching the prominence of the fold is produced, not only by the contraction of the salpingo-pharyngeus muscle, but also by the contracted and shortened fibres of the pharyngo-pala-

tinus. Although this method of examination does not throw much light on the physiological action of the fold, the author considers that it is of practical importance to the otologist, as by this means, without any elaborate apparatus, conclusions in regard to the state of the lip of the Eustachian tube may be formed from the appearance presented by the lower extremity of the fold. The author at this point relates a case in which the greater part of the septum narium, also the turbinated bones, were absent, and there was a hole of the size of a bean in the soft palate. In this case the plicæ salpingo-pharyngeæ could be seen throughout their whole length through the perforation and through the nose, and it was ascertained that, in spite of the opening, there was complete occlusion of the nasal from the pharyngeal cavity during deglutition. (2.) *By Anterior Rhinoscopy.* This is done either with the author's specula, or without when the nasal cavities are abnormally dilated, or the septum narium is partly or entirely absent. The fold is usually only visible during action of the muscles. The author remarks that the plica salpingo-pharyngea is a very favourite situation for gummata. (3.) *By Posterior Rhinoscopy.* For seeing the fold by this method, the author uses a mirror bent at right angles to the shaft, and in examining one fold places it in the opposite side of the pharynx with the posterior surface of the mirror lying on the posterior pillar of the fauces, or even up against the tonsil. The shaft of the mirror thus runs diagonally across the cavity of the mouth. Very slight movements then suffice to give (as far as is possible under the circumstances) a directly opposite view of the plica, the Eustachian orifice, and the fossa of Rosenmüller. (4.) *By Palpation.* The cartilage forming the posterior lip of the Eustachian orifice is sought for, and by passing the finger from this in a direction downwards and backwards the fold in question is felt. The author is of opinion that the object of the movements and alterations in shape of the plica salpingo-pharyngea is to assist in the complete closure of the upper from the lower portion of the pharyngeal cavity. During deglutition and phonation he considers that this occlusion is effected by the combined action of the plica salpingo-pharyngea, the prominence of the posterior wall of the pharynx (which usually takes the form of a slight uniform swelling in the region of the superior constrictor, and not of a well-marked eminence), and the swelling produced by the contraction of the azygos uvulæ, which fills up the interval between the two folds above-mentioned. The palato-pharyngeal arches and the uvula, to which hitherto much importance has been attributed, are, he considers, only secondary, and serve as additional security to the primary occlusion. In cases in which the plicæ salpingo-pharyngeæ are swollen, the space left between them during deglutition and phonation disappears, and the azygos swelling is pressed against their point of contact. The author draws the practical conclusion, for pathological cases, that destructions of the uvula, openings in the region of the arcus palato-pharyngeus (by which the author means the triangle formed by the postero-lateral margin of the levator-eminence, the plica salpingo-pharyngea, and the free margin of the palate pharyngeal arch), do not interfere with complete occlusion of the pharyngo-nasal from the pharyngo-oral cavity, if the remainder of the soft palate and the plicæ salpingo-pharyngeæ are intact. An accurate knowledge of this fold is, the author thinks, of importance for operations on cleft palate, and also in regard to the occurrence of adhesions of the soft palate to the posterior wall

of the pharynx. The paper contains numerous coloured figures showing the naso-pharyngeal space, as seen by anterior rhinoscopy with or without the author's specula, also a stroboscopic figure illustrating the movements of the Eustachian orifice.

2. *Ziem on some Uncommon Affections of the Velum Palati.*—Dr. Ziem (*Monatsch. für Ohrenh.*, October 1879) reproduces two cases. The first, described by Professor Leube, was one of facial cramp in which during the spasms a peculiar hissing sound occurred, due, as he considers, to participation of the palatal fibres of the facial nerve in the spasm. The other is a case observed by Dr. Ninaus, in which, on closing both anterior nares, a noise, occurring irregularly (from thirty to sixty times per minute), and resembling the drawing of a cork, was heard. It also took place when the nares were occluded by secretion, but not when the *ala nasi* or septum were irritated artificially. Inspection of the fauces showed that the noise was produced by the soft palate being drawn away from the posterior wall of the pharynx, after being raised each time. Dr. Ziem considers that in the first case the noise was probably of a snoring character, and due to irregular vibrations of the soft palate produced by the respiratory stream of air; and that in the second it was produced by the rush of air into the partial vacuum in the nose each time the soft palate was drawn away from the posterior pharyngeal wall during expiration.

3. *Bremer on a Case of Tinnitus, Audible Objectively.*—Dr. V. Bremer (*Monatschrift für Ohrenh.*, October 1879) describes the case of a boy who had suffered for six months from tinnitus in the right ear. The right membrana tympani was irregular and indrawn; the cone of light was absent, but in its place were several streaky or dotted reflexes. The membrane was transparent, and movable with the pneumatic speculum. There was slight pharyngeal catarrh. Hearing for Politzer's acouometer was normal. General loud speaking was understood at from 15 ft. to 20 ft. No noise was present at the time, but at a subsequent visit a short snapping, irregular noise was audible at a distance of 10 ft. It was repeated about 100 to 150 times per minute, and resembled the noise of a telegraphic apparatus, heard at a distance, or the noise produced by tapping the nails on oil-cloth stretched over a table. It lasted about ten minutes, ceasing gradually, and was heard loudest in and under the right ear. The boy could produce and stop it at will. During its occurrence no movement in the muscles of the face, or in the drum-head could be seen. Neither could any movement in the jaw or pharynx be detected, and it continued uninterrupted whilst a bougie was passed up the Eustachian tube. The author considers that it was probably due to contraction of the intrinsic muscles of the ear, especially the tensor tympani.

4. *Hartmann on Diseases of the Ear occurring in connection with Typhus Fever.*—During an epidemic of typhus fever which occurred at Berlin last spring, the author (*Zeitsch. für Ohrenheilk.*, Band viii.; and *Med.-Chir. Rundschau*) examined the ears of 130 males, convalescent from the disease. In forty-two cases (32.3 per cent.) affections of the ears were found, the most common affection being 'swelling of the tube with tympanic catarrh,' that is to say, cases in which there was only tinnitus and deafness, and in which inspection showed retraction, with slight injection and discoloration of the membrana tympani.

Acute inflammation of the tympanum with perforation occurred in nine cases, whilst in four it took place without perforation, although in two of them there was bulging of the membrane. In three cases the bone-conduction was so much impaired, without the tympanum being much affected, that the author concluded that the nerve-apparatus must be implicated. He could not in these cases attribute the deafness to general debility, but rather considered that it was due to an inflammatory condition of the internal ear. In almost all cases of this fever, great swelling and congestion of the mucous membrane of the nose and pharynx occurs. The ears also participate in the general hyperæmia of the head, and thus exudations take place into the different portions of the auditory apparatus. The course and termination of the ear-affections were very favourable, inasmuch as in most cases all the symptoms had disappeared before the patients left the hospital. In two of the cases of perforative inflammation of the middle ear mastoid periostitis supervened. In the cases in which the labyrinth was affected, recovery also ensued after a short interval.

5. *Politzer on the Operative Treatment of Aural Polypi.*—Politzer (*Wien. Med. Wochensh.*, 1879, No. 16, etc., and *Med. Chir. Rundsch.*) says that polypi arising in the external meatus are most rapidly and radically treated by evulsion, either with forceps or with Wilde's snare. If the growth be suspected of a deeper origin it must not be torn out, but cut off, best with the wire snare. For removing those polypi for which the snare is unsuitable, the author has constructed a small ring-knife. He also uses sickle-shaped knives, blunt or sharp scoops, and sometimes crushes the remains of polypi with forceps. For caustics he employs perchloride of iron, in crystals or solution, or nitric acid and zinc chloride. He only makes use of the galvano-cautery when the polypi are too firm to be removed with the snare or knife.

E. CRESSWELL BABER, M.B.

6. *Warlomont on Enervation of the Eyeball.*—M. Warlomont (*Annales d'Oculistique*, Novembre-Décembre 1879) gives a historical *resumé* of the literature of this operation, and recommends the following method of performing it. The patient being thoroughly anæsthetised, an incision should be made through the conjunctiva at a distance of 7 or 8 millimètres (0.275 to 0.03 inch) from the external margin of the cornea and parallel to it. This primary incision may also be carried at once through the capsule of Tenon. A strabismus-hook is next introduced under the tendon of the external rectus, and two curved needles armed with catgut are passed through its substance. The tendon is divided at a point midway between the two needles, and the two loops of catgut are tied together. The subconjunctival tissue is then freely divided down to the optic nerve, and this latter is cut with blunt scissors, in order to lessen the risk of hæmorrhage. The globe is next dislocated inwards and forwards by means of the thread passed through the end of the rectus tendon, and, the entrance of the nerve being thus exposed to view, all the branches of the ciliary nerves are carefully and thoroughly divided. The eyeball is replaced as soon as all hæmorrhage has ceased, a suture being formed by drawing tight the two loops of catgut. The wound is dressed antiseptically, and a compress bandage and cold applied. The author considers that the use of blunt scissors, which bruise rather than cut the central artery, is a practical point of considerable importance, seeing that hæmorrhage

with consequent suppuration, is one of the chief dangers of the operation. Up to the present time thirty-six cases where enervation has been performed instead of enucleation are on record. The results have not in all cases been made known, and therefore no satisfactory statistics can yet be obtained. The author thinks the operation is by no means free from danger, and that it must be employed with judgment and only in suitable cases. It cannot, at any rate as yet, be looked on as a substitute for enucleation.

7. *Martin on a New Method of Performing Sclerotomy.*—Dr. George Martin (*Annales d'Oculistique*, Novembre-December 1879) considers that none of the usual methods of performing sclerotomy are altogether satisfactory. The large scleral incision in Inaligno's operation, in spite of eserine, is often followed by prolapse of the iris, while the subconjunctival sections, recommended by Bader and Spencer Watson, not unfrequently lead to the production of staphylomata. The double incisions practised by De Wecker and by Hock of Vienna are too difficult for general use. To obviate these drawbacks, the author proposes to empty the anterior chamber so gradually as to cause no displacement of the pupil. This he accomplishes by a preliminary puncture with Desmarres' paracentesis-needle. Once the fluid evacuated, the *vis a tergo* of the ocular contents press the iris against the membrane of Descemet, and retain it firmly in its place. The preliminary incision or puncture should be made at a distance of from one to two millimètres from the cornea. If the needle be held parallel to the iris, the puncture may be made under the upper lid as in paracentesis, and all instruments of fixation dispensed with. The wound is then enlarged by a few snips with curved scissors, until the total length of the incision reaches 6 or 7 millimètres. Eserine should be used both before and after the operation. The author alleges that his method diminishes the chances (1) of prolapse of the iris, and (2) of intra-ocular hæmorrhage. It is only applicable in cases where the tissue of the iris is healthy, and where the pupil responds to the stimulus of a myotic.

8. *Cuignet on Ocular Sympathies.*—M. Cuignet (*Recueil d'Ophthalmologie*, January 1880) calls attention to the fact that, besides the sympathy between one eye and its fellow, there is also a distinct sympathy between different portions of the same eye, and between the eye and distant organs, or parts of the body. These react mutually on one another. He cites as examples the various phenomena of lachrymation, photophobia, photops, and pupillary disturbances, in cases where neither the lachrymal gland, the retina, or the iris, are directly affected. By this 'idiosympathy' he explains iritis following upon keratitis, without in many cases, any obvious reason. He cites an interesting case of accommodative asthenopia dependent directly on pregnancy, and traces in detail various ocular disturbances which have as their cause, gastro-intestinal irritation, uterine troubles, carious teeth, etc.

9. *Javal on the Physiology of Reading.*—M. Javal (*Annales d'Oculistique*, Novembre-December 1879) treats of the causes which render reading fatiguing. He considers them to be (1) the constant tension of accommodation, (2) the constant fixation of the eyes, and (3) the fact that books are written in black characters on a white ground. The eye is not achromatic, and therefore theoretically vision should be more distinct when one of the extremities of the spectrum furnished by the colour of the paper

has been annulled. He would, therefore, seek a paper which should reflect blue and violet less strongly than the other colours. A yellow paper, manufactured from wood-fibre, best fulfils these indications. As regards myopia, the author considers it may be produced directly from reading too small print at an early age. He holds that the size of the print used should be strictly progressive with the age of the child and its skill in reading. Other things being equal, the legibility of any text depends not on the height, but on the breadth of the letters, and he would invoke legislative interference to compel schoolmasters to use only print of a certain fineness in the lower forms. Progressive myopia, he considers in many cases is due to the use of too strong glasses, and to the excessive length of lines in books and journals. In binocular vision, the movements of accommodation are extremely rapid and complicated, and are very much influenced by the length of the line over which the eye has to range. Eventually the myope has to move his head in reading, and this necessarily is really a great safeguard against the further progress of his myopia.

LITTON FORBES.

DERMATOLOGY.

RECENT PAPERS.

1. VAN VLIET.—On Dermic Parasites.
2. GOUGUENHEIM.—On Generalised Papulous Erythema. (*Société Médicale des Hôpitaux de Paris*, and *Lyon Médical*, Dec. 14, 1879.)
3. HERVIEUX.—On Generalised Pemphigus in New-born Children. (*Société Médicale des Hôpitaux de Paris*, and *Lyon Médical*, Dec. 14, 1879.)
4. ROUQUEYROL.—On Treatment of Tinea Tonsurans. (*Thèse de Paris*, 1879.)
5. GALEZOWSKI.—On Chromidrosis. (*Recueil d'Ophthalmologie*, Jan. 1880.)

1. *Van Vliet on Dermic Parasites.*—F. C. Van Vliet thus enumerates the parasites which cause lesions of the skin.—First, are diseases due to animalcula. The itch or scabies insect was first discovered as early as the twelfth century. Second in importance of these diseases is the order leptus, which includes two species, *leptus Americanus* and *leptus irritans*. Then follows the *pulex penetrans*. In this case the impregnated female works her way into the papillary layer of the corium. The filaria *Medinensis* attacks the skin, and produces a kind of furuncle. In this case relief is found only when the worm is extracted, care being taken to avoid breaking the worm, so that it may be wholly extracted. The *cimex lectularius*, the *ixodes ricinus*, the *culex pipiens*, the *æstrus*, and the *argas*, are all noticed, as well as the three forms of pediculus—*p. capitis*, *corporis*, *pubis*—with the secondary eruptions due to the latter parasites. The vegetable parasites are, first, the parasite of the tinea favosa, called *achorion Schonleini*, from Schonlein of Berlin, who first demonstrated it in 1838. Then follows the tinea trichophytina, a fungus which is found in three varieties of tinea—*t. circinata*, *tonsurans*, and *sycosis*. The *microsporon furfur*, which produces the disease known as tinea versicolor, was demonstrated by Eichstedt of Greifswald, in 1846; while the most recent discovery in this department was in 1854, at

which time Devergie mentioned the parasitic nature of the disease called *eczema marginatum*, and Baresprung in the following year fully described the parasite as the *tinca trichophytina* already mentioned.

2. *Gouguenheim on Generalised Papulous Erythema*.—Dr. Gouguenheim, at a meeting of the Société Médicale des Hôpitaux de Paris (*Lyon Médical*, 14th December 1879), described a thin, vigorous woman, who for three weeks had suffered from sharp pains of the leg and right elbow, with fever and swelling of the right instep. On April 22, a papulous eruption appeared, disseminated over the dorsal face of the hands, arms, and trunk. This eruption disappeared on May 1. On May 3, she had nodose erythema on the legs. On May 10 the eyes were red and weeping; the next morning there were conjunctival papule with perikeratic cedema. On May 25, she had pains in the limbs, but all eruption had disappeared. There appeared to be here a rheumatismal diathesis, as Bazin would have had it. Hebra, Hardy, and Besnier do not admit the relation between these erythemata and rheumatism, except in the case of polymorphous erythema. M. Empis observed that he did not consider that we can deduce rheumatismal relationship from the coincidence of articular pains. Very often nodose erythema is neither preceded nor followed by pains. M. Labbé admitted the rheumatismal nature of papulous eruptions, especially of acute papulous erythema or rheumatic peliosis.

3. *Hervieux on Generalised Pemphigus in New-born Children*.—Dr. Hervieux, at a meeting of the Société Médicale des Hôpitaux de Paris (*Lyon Médical*, December 14, 1879), described cases in which the pemphigus commenced at birth. One of the infants presented, moreover, at certain points, miliary vesicles filled with pus. He here admitted syphilis. Dr. Dumontpallier says syphilitic pemphigus appears eight or fifteen days after birth. M. Féréal considered it impossible to diagnose with certainty syphilitic from non-syphilitic pemphigus. M. Quinquand considered that pus appearing in the vesicles after forty-eight to sixty hours is a sign of syphilis. Moreover, nucleine, which is very abundant in syphilitic pemphigus, is deficient in the simple form. M. Besnier stated that syphilitic pemphigus quite at the outset does not contain pus. Until the moment when it contains it, diagnosis is very difficult. M. Rathery has observed in an infant born of a syphilitic mother plantar and palmar pemphigus, which became rapidly purulent, but during three weeks offered no other syphilitic manifestation.

4. *Rouqueyrol on the Treatment of Tinea Tonsurans*.—Rouqueyrol (*Thèse de Paris*, 1879) recommends, in cases of tinea tonsurans, the treatment employed by M. Ladreit de la Charrière, which consists in frictions with a cosmetic composed of a mixture of cocoa, butter, and white wax, containing fifty per cent. of croton-oil.

5. *Galezowski on Chlamydiosis*.—Dr. Galezowski reports (*Recueil d'Ophthalmologie*, January 1880) a case of this affection which came under his notice recently. It occurred in a woman, aged 60, and at the time of her first visit had lasted about three months. The affection was confined to both eyelids of the right side, and was best marked on their free borders, though it also extended as far down as the motor region. It occurred in the form of small spots, of a blue colour, which were removable by friction, but did not disappear on pressure. The patient also suffered from stomatitis and fissures of the tongue, and stated that the stains on the eyelids

became marked in proportion to the buccal disturbance. A microscopic examination of the spots, showed them to be composed of sebaceous matter, epidermic scales, and minute fragments of carbon mingled with blue and white threads of worsted.

LITTON FORBES.

REVIEWS.

Essays on Ophthalmology. By G. E. WALKER, F.R.C.S. Liverpool, 1879.

When a volume of essays on such a subject as ophthalmology is published by a surgeon who describes himself in his preface as 'quite unknown beyond the confines of a limited circle', the reader is apt to pass them over in a very cursory manner. But when the first chapter proposes to abolish such an operation as iridectomy in glaucoma, and to substitute in its place an improvement of an operation which has become obsolete, the attention of an ophthalmologist is aroused; and, when it is found that the *rationale* of the operation does not militate with the usually accepted physiology of the organ, and that the results of the operation have been successful, a more respectful attention is demanded by the remaining essays in the work.

To propose and bring into vogue an operation which will be more successful in the cure of glaucoma than iridectomy, and less damaging to the normal structure of the eye, would be an achievement of the highest rank in surgery, and as unexpected as it would be great.

The operation Mr. Walker proposes to substitute for iridectomy is what he calls 'hyposcleral cyclotomy', and this he does, because he asserts 'with the greatest confidence that all glaucoma is caused by inflammation of the ciliary body'. What he believes takes place in glaucoma is as follows. 'In nearly every case of simple glaucoma the eye is hypermetropic, often highly so; and, as I shall explain later on, in those very rare cases of myopia in which it occurs, it may safely be assumed that the eye was originally hypermetropic, but became myopic by the same vicious action which, otherwise influenced, may bring on glaucoma.'

'Now, in a hypermetropic eye, in direct proportion to the degree of the deficiency of refraction, so is the excessive action of the circular ciliary muscle. For the seeing even of the most distant objects it is called into play, and in persons employed in sedentary occupations requiring the constant use of close vision, a class in which most cases of glaucoma are found, we have it that the ciliary muscle is in constant strain during waking moments, and only comparatively at rest during sleep; and just as a tired and overwrought brain further tires and overworks itself during sleep by dismal dreams, out of which it awakes unrefreshed, so there can be no doubt that the ciliary muscle may keep up its vicious action during sleep. Herein may be the explanation why so many hypermetropes complain more of ocular fatigue in the morning than in the evening.

'I believe what takes place, therefore, in glaucoma, is as follows. The long continued overaction of the ciliary muscle begets in it an irritable state which only wants some provocation to develop an active inflammation. Such provocation is given typically by atropine, which, since it excites the radial fibres to drag on the congested and irritable circular muscle,

offers the most direct means of provoking the disease. Thus, the mystery which has enshrouded the action of atropine in inducing or intensifying glaucoma is easily explained.'

Mr. Walker, believing that the above explains the cause, contends that all glaucomas, no matter how chronic or painless, are inflammatory. 'Cases of acute glaucoma', he says, 'demand rest, perfect and profound', as their cure, and holds that this rest can be obtained in no way comparable to that of cyclotomy.

The operation, after the instillation of eserine to put the circular ciliary muscle on the stretch, is described as follows. 'The patient was fully etherised in a sitting position; then, the lids being opened by the wire speculum, I pushed up the conjunctiva with toothed forceps, slightly to the inner side of the vertical diameter below, and then thrust perpendicularly through the cornea, well within the transparent tissue, a very narrow knife, edge upwards, exactly opposite to the point held by the forceps; then, depressing the handle so as to bring the knife edge parallel to the curve of the tunics, I thrust it through the iris, and slowly withdrew it, cutting, as I did so, everything up to the sclerotic. I felt a distinct sensation as of cutting a gristly body, as I made the return incision.' The 'great danger to avoid is prolapse of the iris'; but all that has resulted from this has been a delay of the healing of the wound, and an irritability of the eye during that time.

The improvement in the case in which the above description of the operation is given was so great, that the eye, which before operation had a + 3 T, and with sufficient vision to count fingers only, lost its pain, and with a + 16 lens had 'distant clear vision'. For near vision, he required 'about 6 +'. This was 'some months after', so that the reader must suppose that no accommodative power had returned to the eye since the operation.

That the operation is not always successful in preventing the recurrence of glaucoma, we gather from a foot-note which says, 'If glaucoma recur after cyclotomy it is always of painless, or nearly painless, character'.

It is desirable, since Mr. Walker admits that such is the case, to have a tabulated statement of all the cases operated on, with the vision and tension before and after operation. He relates about a score of cases which prove to his 'own mind, that in hypscleral cyclotomy we have a sure remedy for glaucoma and its allies'; for, although these cases were not all successful, Mr. Walker has, in the unsuccessful ones, a good reason why the improvement was not obtained or expected. We must suppose, however, from a foot-note couched in such general terms as that quoted above, that there were other cases in which an immediate success had not been obtained, and we are further bound to suppose that these failures were the exceptions; otherwise Mr. Walker would not recommend such an operation as superior to iridectomy, in which, although by no means fully satisfied therewith, ophthalmologists have seen fit to place confidence.

Mr. Walker gives a short chapter on the use of eserine in glaucoma. In acute glaucoma, he uses it to put the circular muscle on the stretch, and so render certain and easy its division in cyclotomy. But unless followed by cyclotomy it does, he thinks, more harm than good, as the pain is increased till the muscle is cut. But it proves of the 'greatest service' in acute or subacute glaucoma, when the

active symptoms have been relieved by cyclotomy; and, in a few cases of chronic glaucoma, it may obviate the necessity of cyclotomy. Mr. Walker instils a solution of one-thirty-second or one-sixty-fourth of a grain at night, and estimates its effect by a careful examination of the pupils in the morning. All he desires to obtain is 'a transient contraction of the circular ciliary muscle'. Should the pupil accordingly be very small, he 'dilutes the solution until the desired effect be produced'.

The Essay 'On the Differential Diagnosis and Treatment of Exophthalmos, of Intracranial and Intra-orbital Origin', is concise and distinct. The result of his observations may be found in one of the last paragraphs of the essay, which runs as follows. 'If we have in a case of exophthalmos all the return circulation obstructed, however slightly, and especially if compression of the carotid stop, or lessen the circulation of the central artery, the *causa morbi* is intracranial; whilst, in a case of exophthalmos, however extreme, if only a part of the veins be obstructed, no matter how greatly, we have to do with the mischief in the orbit. Whether its cause in either case be aneurism or solid tumour, must be determined very much by the history, which sometimes, as in Mr. Cann's case, may be very definite, but at other times, as in Mr. Morgan's case, may require a very close scrutiny to sift the chaff from the wheat.'

In 'Gonorrhœal Ophthalmia', in the infant or the adult, he prefers the following treatment to that advocated by the present authorities on the subject. The lids are covered with a large piece of lint dipped in a lotion of sulphate of zinc, two grains to the ounce, afterwards increased to four grains, and an ample piece of gutta percha is carefully bandaged over all.

Neuroretinal atrophy he has seen benefited by instillations of strychnia prepared as follows. 'Take of strychnia, two grains; of strychnia sulphate, three grains; distilled water, one ounce; mix and boil for some time and then filter. A little strychnia is left in the filter, leaving a perfectly neutral solution of sulphate of strychnia containing about four grains.' He combines this with the administration of mercury at first, and, should the affection be of syphilitic origin, the mercury is continued.

Sympathetic ophthalmia Mr. Walker treats by the injunction of the old blue ointment, or of one of Mr. Marshall's oleates of mercury, and he 'never hesitates to salivate if he thinks the disease grave enough to warrant it'. He thinks this will often prevent the enucleation of an eye which has some vision left, and that, even should severe sympathetic affection be set up, we have, by the combination of enucleation and mercurialisation, 'a perfect control' over the process. W. LAIDLAW PURVES.

The Student's Guide to Diseases of the Eye. By EDWARD NETTLESHIP, F.R.C.S., Ophthalmic Surgeon to St. Thomas's Hospital. London: J. & A. Churchill. 1879.

The author's aim in this excellent little work has been 'to supply students during their hospital course with the information they most need on diseases of the eye'. A work of the kind is by no means one of the easiest to write, and the class, moreover, to which the author especially addresses himself, has of late years been pretty well surfeited with manuals of all sorts. Nevertheless there has for some time been room for a good manual on ophthalmology, which,

while avoiding the prolixity and exhaustive condition of most of the larger works, should nevertheless give an accurate and sufficiently full account of all the latest and best information possessed on the subject. In a manual of this kind an author's skill as a teacher is shown quite as much by what he omits, as by what he inserts. There is, of course, no room for originality, which, indeed, is essentially out of place. The highest merit, perhaps, to which an author can lay claim in such a work as the present is to have written with clearness and perspicacity, to have omitted no facts of importance, and to have rendered every part of his subject thoroughly and uniformly intelligible. Judged by these standards this little work is one of considerable merit. The style is a model of clearness and condensation, the text is illustrated, but not overburdened, with well-executed wood-cuts, while such confessedly difficult subjects as refraction and accommodation, muscular paralyses, and the theory of the ophthalmoscope, are handled with ample fulness and perspicuity.

The arrangement adopted by the author of his subject matters is perhaps open to criticism. The first part of the work is devoted exclusively to the Means of Diagnosis; the second is purely Clinical, while the third deals entirely with Ocular Affections as expressions of general diseases. In the first portion of the work are included the examination of the eye, both externally and with the ophthalmoscope, the measurement of squint, the determination of refraction by the ophthalmoscope, and generally the optical and more purely scientific portion of ophthalmology. A good deal more might with advantage have been made of this chapter. The training in scientific methods and in accuracy of statement which this portion of ophthalmology demands is a very valuable education in itself. It is also useful practically, and therefore the omission of almost all reference to the angular measurement of squint, to the influence of lenses on the nodal point of the eye, to the systematic use of the perimeter, to the size of ophthalmoscopic images, and to the normal limits of the perception of colours in the retina, is very much to be regretted. Something might also have been said about the angle α , and about the measurement of the length of the ametropic eye, or of a glaucomatous cup by means of the ophthalmoscope. The whole chapter, in fact, is incomplete and somewhat superficial, though, as far as it goes, accurate and useful.

The author deals with the second, or purely clinical portion of his subject, in a more satisfactory manner. He possesses the valuable faculty of condensing a large amount of information within a comparatively small compass. He adopts, for instance, a simple and very practical classification of ophthalmic in general, by which much useless hair-splitting and consequent confusion is avoided. According to him, one ophthalmia differs from another in degree rather than in kind. One merges into the other in so many instances, that practically it becomes impossible to distinguish clinically one inflammation of the conjunctiva from another, except by the severity of the symptoms. The etiology, the natural history, and the treatment of the various forms of conjunctival inflammation are given with commendable fulness. The principles of treatment rather than any particular remedies are particularly insisted on. This chapter, indeed, might be taken as a good specimen of the book as a whole. The information it contains is conveyed clearly and succinctly and is up to the level of the most recent advances. The drawings are always carefully executed, though sometimes,

perhaps, a trifle too diagrammatic. In the chapter on diseases of the cornea, the various clinical types of ulcers are described at considerable length. In chronic and relapsing cases, the treatment by means of a seton in the temple, as recommended by Mr. Critchett, is strongly advocated. Sufficient prominence is not perhaps given to Sämisch's operation, which is only introduced, as it were, casually. There is also no adequate mention made of the use of eserine in those affections, although it probably is a far more effectual agent than atropine in reducing ocular tension. Interstitial keratitis the author holds to be always of specific origin in children. In opposition to some continental writers, he considers it in no way allied to or dependent on struma, and adduces some very cogent arguments in favour of his views. In treating of iritis, he describes the etiology and chief clinical differences between the several types met with, but does not recognise the old division into serous, plastic, and parenchymatous. He believes that the influence of posterior synechia in causing relapse has probably been exaggerated, and he mentions a gouty form of iritis as distinguished from the rheumatic. Seeing, however, the intimate relation of gout to rheumatism, he suggests, rightly, we think, that in many cases the iritis should really be attributed to the latter affection.

The account of sympathetic ophthalmia has been very carefully written. Few subjects are of greater importance practically, and on none perhaps is it more necessary to have clear views as to treatment. With his conclusion, most practical surgeons will agree. He has little faith in the heroic doses of mercury recommended by Stellwag von Carion and Wecker, and holds that the exciting eye should always be spared, and subjected to careful treatment so long as it retains any moderate amount of sight.

The chapters on cataract, on affections of the choroid and retina, and on refraction, are all excellent. Here, as elsewhere, a great deal of information is conveyed within a comparatively small space. The account of astigmatism is peculiarly clear and readable, while the theory of cylindrical glasses is put so intelligibly that no reader with ordinary attention can fail to master it. The chapter devoted to operations is not by any means so satisfactory. The space at the author's disposal was, indeed, too limited for any useful treatment of such an extensive subject. Enough, however, has been given to enable the student to perform the mechanical portion of all the more usual operations correctly. The after-operations of cataract are dealt with so briefly that the student can gain no clear idea of the scope and importance of such procedure as iridectomy in occlusion or iridomy. The account also of von Graefe's classical operation is by no means correct, which, in a text-book such as the present, is, to say the least, a serious oversight. Space does not permit any more extended notice. Suffice it to say, that this little book is, within its limits, a thoroughly good manual. It is clear, accurate, and scientific, and will prove of great value to the class of readers for whom the author tells us he chiefly intended it.

LITTON FORBES.

Harvey. *La Circulation du Sang. Traduction Française.* Par CHARLES RICHEL. Paris: G. Masson.

An excellent French translation of Harvey's great work on *The Circulation of the Blood*, and of his two

letters to Riolan, has recently been given to the world by M. Charles Richet. A special interest is attached to it, as it is the first ever made, and is, moreover, enriched by a valuable historical introduction. Of the translation, all that need be said is, that it is characterised by great fidelity and clearness, and will, doubtless, contribute to a more accurate appreciation in France of the merits of our countryman. In his preliminary discourse, M. Charles Richet displays an extensive and minute acquaintance with the literature of the subject. He gives the opinions of anatomists and physiologists from the earliest times. Justice is done to the wonderful penetration of Galen, and to the additions which he made to the scanty knowledge of his predecessors. He tells us how for thirteen centuries the human mind remained dark and stagnant. In 1553, the famous book of Servetus appeared, in which the circulation through the lungs is formally declared, and where the opinion of Aristotle and Galen as to the existence of a perforation in the septum of the heart is corrected. The credit of this last discovery has been awarded to Vesalius; but, as M. Charles Richet points out, it has been recently proved, in a remarkable work by M. Tollin, that the passage in the treatise, *De Humani Corporis Fabrica*, in which the discovery is announced, does not exist in the first edition of the book. In the second edition, which appeared twelve years later, and two years after the publication of the work of Servetus, Vesalius first asserts that the septum is entire. M. Charles Richet suggests that the absence of any mention of Servetus may have been due to fear of persecution, if, in those days of religious intolerance, he referred to the writings of such an arch-heretic as he was deemed. It is clear, however, that in the middle of the sixteenth century the honesty of men of science was not high, seeing that a few years after the period in question Columbus of Padua described with great minuteness the pulmonary circulation, and claimed the exclusive merit of the discovery. Servetus knew that the blood was sent to the limbs through the aorta, but was ignorant of its return through the veins. The establishment of this doctrine is due to Cesalpinus of Pisa, and was made known in 1569. A few years afterwards (in 1574), Jerome Fabricius of Acquapendente discovered the valves of the veins, and showed that they were directed towards the heart, and so favoured the return of blood. Thus the ground was cleared, and the foundations laid upon which Harvey erected his edifice, many of the materials for which he doubtless collected during his four years' residence at Padua, where Fabricius taught. These considerations, however, do not detract from his glory or the value of his work. 'Harvey's book,' says Flourens, 'is the finest in physiology; he breaks away from theory and relies solely upon experiment and proof. What was previously only a conception, he demonstrates to be a fact.'

A question has been raised as to the probable influence of Lord Bacon's writings upon Harvey. The *Novum Organum* appeared in 1620; Harvey's treatise, *De Circulatione Sanguinis et Motu Cordis* in 1629. But it is admitted that, for at least a dozen years before the publication of his book, Harvey had made known his doctrines. Hence to his own logical and philosophical mind must be ascribed the special qualities and merits of his work.

M. Charles Richet appends to his translation some good notes on the physiology of the circulation of the blood and the movements of the heart.

As he remarks, they may be useful in assisting his readers in comparing our present knowledge with that of the early part of the seventeenth century.

A. FEARNSIDE.

On Phthisis and the Supposed Influence of Climate: being an Analysis of Statistics of Consumption in this part of Australia, with remarks on the Cause of the Increase of that Disease in Melbourne. By WILLIAM THOMSON, F.R.C.S., F.L.S.

Mr. Thomson has returned to the charge on the vexed question of phthisis mortality in Victoria, and in the whole controversy has displayed an amount of perseverance in collecting figures, and of dexterity in arranging them in tables, worthy of a better subject.

The points which Mr. Thomson urges so strongly have been already reviewed in this journal, and it will, therefore, be unnecessary to advert at length to them; but, briefly expressed, they are: (1) The existence of phthisis in Victoria; (2) Its prevalence, not only, among visitors and emigrants, but also among those born in the colony; and (3) that the death-rate from phthisis is on the increase.

The publication of the author's earlier pamphlets appear to have created some excitement in Victoria; and a committee, consisting of four eminent members of the profession, was appointed by the Medical Society to inquire into, and report on, the whole subject. Their report appeared in 1877, and went far to vindicate the colony from some of the attacks made on its sanitary condition; but certain of the conclusions are here criticised by Mr. Thomson, who quotes against them the authority of Mr. H. H. Hayter, the Government statist, whose evidence, it appears, opposes that of the Medical Society on several points, and we need hardly add that on these points Mr. Thomson endeavours to meet the report with elaborate arguments and endless figures.

It is obviously impossible for us to harmonise distinctly antagonistic opinions put forward by authorities, each capable of judging; and we prefer, under these circumstances, to leave the solution of the differences to the accumulation of facts and the lapse of time; but, looking at the small numbers contained in some of the tables, we think our author would have been wiser if he had waited until he had built his arguments on a firmer and broader foundation. It is most probable that the causation of phthisis depends as much on the occupation, habits, and sanitary surroundings of the individual, as on the climate in which he lives; and specially so, if his life be passed in a large city like Melbourne, which, while it may possess exceptionable advantages in point of climate, must suffer from the disadvantages of all large cities, viz., overcrowding and impurity of atmosphere. Again, the appearance of phthisis in localities hitherto free from that disease, when they become consumptive sanatoria, may be explained by the number of phthisical patients, sometimes instances of arrested disease, intermarrying with the natives, and thus producing a stock of more or less phthisical tendency. This may account for part of the large number of consumptives in Victoria. Our author, after he considers that he has refuted the conclusions of the Medical Society, enters on the pathology of phthisis, and expresses himself strongly on the infection question. After quoting from an eminent pathologist 'that the (tubercle) nodules are formed of epithelium accumulated within the alveoli, and contain cells resembling leucocytes and granular amor-

phous matter, and that we are at present ignorant of the circumstances which make an inflammatory product infective', Mr. Thomson proceeds: 'In incertitude, speculation seems allowable: hence my venture to conjecture how a nodule may be formed within an air-vesicle by compact *débris* of epithelium left there after it had been blighted by being deprived of its protoplasm by the action of micrococci, in which case the giant-cells and other constituents would be relics and not products 'by increased cell-growth'. Further on he concludes that, in the pneumonic processes of phthisis, the differentiating element is a micrococcus or some form of fungaceous organism endowed with special pathogenic property, and asks, if the phthisical material is transferable from one part of the lung to another, why it is not so from one human body to another through the atmosphere.

Further, an attempt is made to divide phthisis into real and simulative; the latter embracing cases arising from the inhalation of mechanical irritating particles, as in the case of potters and colliers, where there is a chance of the disease subsiding on the removal of the exciting cause; the former, or true phthisis, arising from organisms propagating themselves in the living tissues, and thus causing caseating alveolar changes to become progressive.

Mr. Thomson next proceeds to the treatment of phthisis from this standpoint, and considers that the virus is probably destructible by some special atmosphere like that of the Solfatara, strongly charged with arsenic and sulphurous acid, or like the New Zealand Geysers; and he also points out the curative power said to be possessed by nicotine fumes in the tobacco manufactories of Melbourne over phthisis, which he explains as follows. 'The vapour from the leaf being universally diffused throughout the works, when a phthisical patient enters the medicated air, the nervous system usually soon becomes inured to the narcotic, but not so lung and other parasitic organisms, which quickly succumb, and leave the body they infest and regain normal life.'

We have quoted so much to show the author's powers of imagination, and we wish we could say that much evidence was to be found contained in the book to support these hasty generalizations. It is only fair to add that he considers them speculations, and for his sake we hope his work will be judged more by its statistics than by its theories.

C. THEODORE WILLIAMS.

Elements de Physique Appliqués a la Médecine et à la Physiologie Optique. Par A. MOITESSIER. Paris: Masson. 1879.

This is one of Masson's excellent little diamond handbooks, and is the first of a short series of handbooks of pure physics intended for the use of medical students. In subsequent publications the author proposes to treat of heat, electricity, and acoustics. This book is divided into four parts. In the first part, the author discusses general principles, and studies the reflection and refraction of light. The second part deals with the dispersion and emission of light; its chemical action; its phosphorescence and fluorescence. The third part describes some of the most important optical instruments relating to medicine, such as the eye, the microscope, the ophthalmoscope, the laryngoscope, and spectacles. The fourth and last part deals with double refraction and polarisation of light in fluorescence and polarisation. The book is admirably clear, and full of sound knowledge; and is well printed and illustrated.

A Guide to the Practical Examination of Urine; for the use of Practitioners and Students. By JAMES TYSON, M.D., Professor of General Pathology and Morbid Anatomy in the University of Pennsylvania. Pp. 172. London: Baillière, Tindall and Cox. 1879.

This little work is one of a class of books that the rapid extension of the many branches of the science of medicine has called into existence and made indispensable alike to student and to practitioner. Scarcely a subject has not a special guide to it, and the urine has not been allowed to want. Several in this country compete for favour, but we know of none that is so complete and in all respects so excellent as this one, which comes to us from 'the other side'. The system of the work is that usually followed. The general properties and composition of the secretion are described, and the methods of analysis, both qualitative and quantitative, are subsequently detailed. The microscopic examination of the various deposits and their clinical significance occupy a fair share of the work, and the whole concludes with a description of the mode of examining urinary calculi. The work is abundantly illustrated throughout, and is what it professes to be, a practical guide. The information on all points is up to the latest date, and authorities from all sources are laid freely under contribution. The directions for manipulation are so clear and concise that they cannot fail to be understood, and are evidently given by one thoroughly conversant with 'how to do it'.

NEW INVENTIONS.

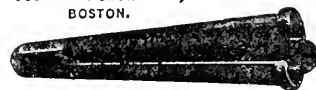
NELSON'S BEEF-TEA.

It is frequently made an objection to various forms of prepared beef-tea, that the peptogenic and saline constituents of the meat are removed in the process of preparation, and thus some of the most important elements of nutrition are eliminated. This objection has been met in the manufacture of Nelson's Beef-tea by the retention of a proportion of the fibrine of the meat; the necessary substances are thus supplied, and, in our opinion, with advantage. In this preparation we find more of the flavour and odour of fresh beef than is usually met with in the beef-teas of commerce, if at a sacrifice of that clearness which is the desideratum of ignorance of the necessities of alimentation. The convenience of consumers is studied by Messrs. Nelson in the form in which this beef-tea is placed at their disposal, as each packet contains sufficient for a meal, which can be most quickly and easily prepared.

A NEW SPECULUM ANI.

This speculum, the invention of Dr. Hosmer of Watertown, Mass., is made of brass and plated with nickel, and may be described as a hollow cone, four and a half inches long, its apex consisting of a hemisphere, with a radius of one quarter of an inch, and its base showing an aperture one inch in diameter.

CODMAN & SHURTLEFF,
BOSTON.

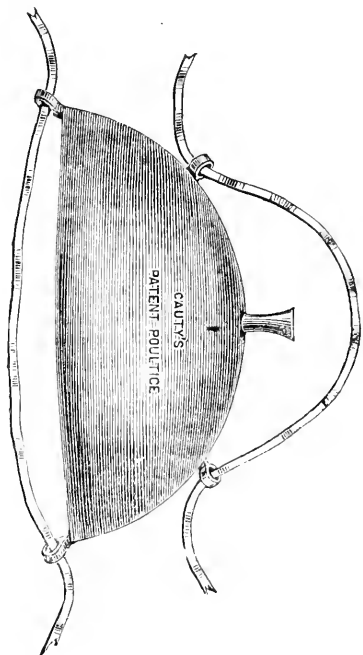


Running lengthwise upon one side of the instrument

is a slot three and a half inches long, one half an inch in width at the point where it breaks the circumference of the base, and one quarter of an inch wide where it terminates one inch from the apex. The edges and closed extremity of this slot are finished in such form that no pain is likely to be produced by any movement of the speculum within the anus. Inside the cone, and fixed opposite the slot, at an angle of between four and five degrees with the axis of the instrument, is a narrow glass mirror, in which may be seen through the slot the image of anything—a fissure for instance, which it is desirable to expose for inspection. The mirror is firmly secured by a spring, and is so arranged that it can be easily removed and replaced. Experience has proved that the new speculum may be introduced, rotated, and withdrawn without inconvenience or suffering. Its conical shape makes it the substitute for a series of specula of different sizes. The use of the mirror is advantageous, directly by improving the illumination, and indirectly by allowing the observer so to place himself that his own person shall not intercept any ray of light that would naturally enter the instrument. During the examination the position of the surgeon may be easy and unrestrained, and the reflected object is presented to his eye with little obliquity. Before using the instrument it is well to push through the anus, and leave to be expelled with the next stool, a bit of absorbent cotton. It is manufactured by Messrs. Codman and Shurtleff, Boston, Massachusetts.

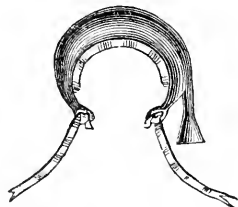
CAUTY'S PATENT POULTICE.

This invention is always at hand, readily prepared, easily renewed, never very hot, yet retaining an equable warmth for hours, and requiring only hot water to render it useful. The heat is retained in the larger varieties all night, and, according to size and exposure, in the smaller ones for many hours.



The absorbent surface may be made the medium of sedative, stimulant, antiseptic, or other applications,

and it will also take up a considerable amount of discharge. The cervical poultice is for the neck and throat, earache, toothache, etc.; the abdominal for colic, dysentery, abdominal inflammations, etc. The large varieties can be easily filled from a jug or can with water as hot as possible, the nozzle then being screwed firmly in, the soft surface moistened and any superfluous moisture expressed; the poultice is then ready for application



and can be attached by cords or tapes. Care must be taken that all the air is expelled before closing, and then there is simply a layer of hot water which



readily adapts itself to the figure. The smaller varieties are best filled by immersion, when a little pressure replaces the air by water. The article is manufactured by the India-Rubber, Gutta-Percha, and Telegraph Works Company, 106, Cannon Street, London, E.C.

BRERETON'S SURGEON'S VICE.

Dr. Robert McDonnell lately exhibited a very ingenious instrument invented by Dr. Brereton of Oughterard, who calls it a surgeon's vice. It is, in point of fact, an arrangement resembling a double tourniquet, and plays very easily, grasps the limb very firmly, and serves the purpose not only of a tourniquet, but of an additional assistant, and would therefore be an invaluable instrument in infirmaries and workhouses, and places where there is a lack of assistants. It consists of a heavy framework of iron, and works with a screw, so that the two side pieces retreat from each other, making the bands of the tourniquet which cross the limb very tense, but very evenly tense, enabling it to be fastened on the limb with a great amount of force, and without causing the slightest pain. The bands control the circulation without causing any pain at all. When being put on, the straps are unbuckled, the limb is laid in, and they are passed round. Dr. McDonnell said that he had used it himself on two occasions recently, one being for Syme's amputation of the foot, and the other for amputation below the knee. He was, therefore, able to speak for the practical working of it. It is quite easily applied. The elastic part of Esmarch's bandage is first put on; the limb is then laid in. He applied it above the knee, so that the pressure was on the thigh. By turning the handle the bandages are tightened, until a sufficient amount of pressure is obtained to control the vessels. Very great advantages are found from it in this way. After the operation, the bands may be slackened to such a point as just to allow the hæmorrhage to begin again, to show where the bleeding points are. The weight of the instrument keeps the limb so firm

and steady, that the patient cannot kick about or struggle much. Dr. McDonnell thinks it would be also very useful in cases where there are operations on diseased bone, because it would do the duty of Esmarch's bandage, and at the same time keep the limb exceedingly firm, and in cases of ununited fractures it would also work well.

Experience of its use in Steevens's Hospital has shown it to work remarkably well, and Dr. McDonnell believes the instrument will prove of real and undoubted use in places where there is a lack of assistants.

This vice is made by Messrs. O'Neill and Thompson, of 7, Henry Street, Dublin, sole manufacturers.

MISCELLANY.

A THUMB-FOOTED RACE.—Mr. Tremlett, the British consul at Saigon, in his report this year, mentions as a remarkable peculiarity of the natives of the country that they have the great toe of each foot separated from the others like the thumb of the hand, and it can be used in much the same manner though not to the same extent. This distinctive mark of an Annamite is not, however, usually seen in the vicinity of Saigon, but is now confined to the inhabitants of the more northern section of the empire, where the race has remained more distinct. This peculiarity is the meaning of the native name for the Annamite race; and that the name and peculiarity are of great antiquity is shown by the mention in Chinese annals 2,300 B.C. as that (or those) of one of the 'four barbarian' tribes that then formed the boundaries of the Chinese Empire.

LINNEAN SOCIETY.—At the opening meeting of the session of the Linnean Society, Dr. Francis Day read a paper on the instincts and emotions of fish. The study of the subject had, he said, received but very little attention in late years, most naturalists apparently accepting Cuvier's view that the existence of fish is a silent, monotonous, and joyless one. This is, however, by no means the case; special expressions cannot be so well marked in fish as in higher animals, because they have immovable eyelids, have their cheeks covered by scales, and have no external ears, whose motions in some animals are so expressive. The most numerous recorded observations are those which refer to the regard for the young. Some fish are polygamous, but among the monogamous there is seen a watchfulness over the young, in which the male often plays as important a part as the female. With several species of the ophioccephalus, it is the duty of the male to prepare the nest as well as to take care of the young. In some classes, which are not nest-builders, the eggs are carried about in the cheek-hollows of the male. In the case of the gasterosteus, the nest, besides being guarded by the male, is gradually opened more and more to the action of the water, and a current is directed over it by a motion of the body. That fish may be trained to come when called is well known in all parts of the world, though, as this is generally associated with feeding, it may not be taken to mean much. Cases have been noticed of male fish remaining at the same spot in a river from which the female has been removed, and, in one case, where a pair were separated for three weeks, they became miserable and seemed near death; while, on being reunited, they again became happy. In aquaria fish have been known to attach themselves to particular spots, and battles ensue with intruders. Such fights have been watched, and it has been noticed that, while the conqueror assumes more brilliant hues, the conquered sneaks off with his gay colours faded. In their artfulness in obtaining food fish show much intelligence, which is more especially marked with those that eat smaller fish which they entice within their reach. That some classes are capable of an organisation for acting together for common good, is shown by the way they unite to attack a common enemy. The subject is one that deserves much more attention than it has hitherto received.

A VERY effectual way of removing plaster-of-Paris from the hands is mentioned by a correspondent of the *Boston Medical and Surgical Journal* as being employed in St. Thomas's Hospital. It consists merely in the use of white of egg instead of soap in washing the hands. The fact will interest those who have much to do with plaster dressings.

THE JIVAROS.—This tribe of South American Indians have, according to a paper recently read at the Anthropological Institute of Great Britain, some peculiar and somewhat unpleasant customs. They are hospitable, and their houses are large and built of palms. They have a most perfect method of scalping, by which the victim's head is reduced to the size of a moderately large orange, maintaining tolerably well all the features. The skin is cut round the base of the neck, and the entire covering of the skull removed in one piece. This is then dried gradually by means of hot stones placed inside it, until the boneless head shrinks to the required size. They also wear their slain enemies' hair tied in long plaits round the waist. Great festivities take place when a child at three or four years of age is initiated into the art and mysteries of smoking. The Jivaros of the Pintue have the habit of vomiting nearly every morning by the aid of a feather, arguing that all food remaining in the stomach overnight is unwholesome and undigested, and should, therefore, be ejected.

PSYCHIC ESSENCES.—The Berlin *Gegenwart* of Nov. 15, 1879, contains a report of some experiments made by Dunstmaier to test the accuracy of Jäger's theory, that the soul of every man and animal is to be sought for in the characteristic odour exhaled in each case. Dunstmaier, who unites in his own person the physiologist and metaphysician, was, until these experiments convinced him of his error, an outspoken opponent of Jäger's views. He is now, however, an enthusiastic convert. Dunstmaier's method was no doubt suggested to him by his familiarity with experimental science. He considered that light and the soul—if the soul is an odour—are both radiated, and that light can be, as it were, collected and fixed by a photographic plate coated with iodide of silver. What body, now, is as sensitive to odours as iodide of silver is to light? Evidently the nerves of smell in a dog. In the centre of the laboratory a cage containing twenty hares was placed, and a dog was admitted to the room. He at once made violent efforts to get at the hares, which, of course, in their terror, rushed to and fro in the cage. After two hours of this torture the dog was killed, the nerves of smell and the mucous membrane of the nose removed, and rubbed up in a mortar with glycerin and water. The twenty hares had been exhaling their souls for two hours, and the dog, during all his panting and sniffing, inhaling them for the same length of time. The glycerin might be expected, then, to contain a certain quantity of the soul of the hare, the main characteristic of which is, of course, timidity. That this was the fact the following experiments seemed to prove. A few drops of the extract were administered to a cat; she ran away from some mice instead of pouncing upon them. By the subcutaneous injection of only two cubic centimetres a large mastiff was rendered so cowardly that he slunk away from the cat. By a similar experiment, in which, however, a young lion in a menagerie played the part of the hares, Dunstmaier succeeded in isolating the soul-substance of courage and in transmitting it to other animals. Still more interesting experiments showed clearly that these 'psychotypic' glycerin extracts had a decided effect on the human species. Thus, after swallowing a small dose of psychotypic timidity, Dunstmaier had not the courage to believe in his own great discovery. This effect soon passed off, however. On the other hand, Jäger found, a large dose of psychotypic courage of the greatest use whilst writing his last work on the Jews. Dunstmaier has published his investigations in the first volume of the *Transactions of the German Oecological Society*, where our readers can also find the details of some experiments in which a timid blushing girl was the original radiating body.

The London Medical Record.

TSCHIRJEW ON THE ORIGIN AND SIGNIFICATION OF TENDON-REFLEX.

FOLLOWING the researches of Westphal and Burckhardt on this subject, Dr. S. Tschirjew has made a number of experiments with a view of determining how the phenomenon known as tendon reflex is caused, and gives the results in the *Archiv für Psychiatrie*, Band viii, Heft 3. He commences by criticising severely the methods pursued by Burckhardt in his investigations, and says that the latter's conclusions are unreliable, owing to want of precision in the apparatus used.

When the knee-phenomenon (patella tendon-reflex) was first observed, it was regarded by Westphal and others as an instance of reflex action; but when, later, it was found that no other form of mechanical irritation applied to the tendon, except striking it, caused muscular contraction of the quadriceps extensor, opinions were generally in favour of the contraction being due to direct irritation of the muscle by the force of the blow transmitted through the tendon. Several considerations seemed to support this view: e.g., 1. the known fact that mechanical irritation, suddenly applied to a muscle, is capable of causing its contraction; 2. the great rapidity with which the muscular action follows the blow upon the tendon; 3. the marked exaggeration of the phenomenon in cases of spastic spinal paralysis, due, as was supposed, to the increased muscular tension present in that disease.

If the phenomenon were due to direct irritation of the muscle from the direction of the tendon, it is evident that there would be a wave of muscular contraction, commencing in that part of the muscle nearest to the tendon, and passing upwards towards the hip. But, if the impulse to contraction came by way of the nerve which supplies the muscle, then the muscular action would commence almost simultaneously in all parts of the muscle. The author set himself to ascertain which of these two conditions actually existed. It had also been asserted in favour of the direct irritation theory, that the cessation of the knee-phenomenon after division of the crural nerve was due to the flaccid condition (want of tone and tension) of the muscle, which follows this operation. If this were true, then the restoring of the muscular tension, by moderate stimulation of the peripheral end of the divided nerve, ought again to render possible the production of the knee-phenomenon. This point was also the subject of experiments.

In order to elucidate the first question, observations were made upon two patients, one suffering from characteristic spastic spinal paralysis, the other from partial paraplegia resulting from an old myelitis. The knee-phenomenon was strongly marked in both patients, especially the former. A most carefully arranged apparatus (fully described by the author) was used, which showed the exact time at which muscular contraction commenced at two different points in the muscle, 13 centimètres distant from one another. The result of a large number of observations showed that, in the contraction of the quad-

riceps extensor which follows a blow on the *patella tendon*, there is no wave of muscular action passing from below upwards, or, indeed, in any other definite direction. Slight differences of the time at which contraction began at the two points were observed; they varied from 0.015" to 0.003", and were sometimes in favour of the upper station, and sometimes of the lower. Taking the rate of transmission of a wave of muscular contraction at about 3 mètres per second, it should take over 0.04" to traverse 13 centimètres. No such difference as this was observed, and the muscular action as often commenced first at the point most distant from the patella tendon as at that nearest to it. These results tended distinctly to discredit the theory of idiopathic muscular contraction, but were easily explained on the supposition that the impulse to contraction proceeded from the nerve.

To determine the second question, experiments were made upon narcotised rabbits. The sciatic nerves were usually divided, as this always causes the tendon-reflex to be much more marked. The crural nerves were exposed and placed over threads. After the experimenter had satisfied himself that the phenomenon was present on both sides, the crural nerves were divided, and the knee-phenomenon was then found to be absent. The peripheral ends of the crural nerves were now carefully stimulated, and it was found that the degree of muscular contraction could be regulated to a nicety and kept almost constant; striking the patella tendon, however, did not now cause the slightest trace of contraction in the quadriceps muscle. The result of this experiment, together with the observations given above, quite disproved the direct mechanical irritation theory, and supported that of reflex action.

The author now proceeded to ascertain in what portion of the spinal cord the transference of impressions takes place, and along what centripetal nerves the impression reaches the nerve-centre. By dividing the spinal cord in rabbits successively between each pair of vertebrae, from the third lumbar to the first sacral, it was found that it was only when the cord was divided between the fifth and sixth lumbar vertebrae that the patella tendon-reflex was absent. It thus appeared that, in rabbits, the transference of impressions, necessary to the production of the knee-phenomenon, takes place in quite a limited portion of the spinal cord, corresponding to the entrance of the sixth lumbar nerves (Krause). It was also ascertained that if the posterior root of the sixth lumbar nerve were destroyed upon one side, the knee-phenomenon was at once lost on that side, though it had been present immediately before. If both posterior roots were destroyed, the phenomenon was lost upon both sides. From these facts the author concludes [perhaps somewhat hastily—*Ref.*] that, in all cases of tendon-reflex, the origin of the motor nerve concerned indicates the spot in the spinal cord at which the transfer of impression takes place; he also thinks that, the conditions being similar in the human subject, the part of the spinal cord entered by the third and fourth roots of the crural plexus (Henle) is that which presides over the production of the patella tendon-reflex; the nerves mentioned correspond most nearly to the sixth lumbar nerves in the rabbit.

Dr. Tschirjew next turns his attention to the centripetal nerves which have to do with the production of the knee-phenomenon. The fact that this latter cannot be produced by any other mode of irritation of the patella tendon than by striking it, indicates at

once that the sensory impression is not produced in the tendon itself, but elsewhere. Several experiments were, however, performed to demonstrate this point. 1. The patella tendon was tightly ligatured immediately below the patella and directly above the tibia; the intermediate portion of tendon was then so crushed with forceps that there could be no possibility of any nerve-endings in it remaining sensitive; the tendon between the patella and the muscle was also tightly ligatured. Under all these conditions, the patella-tendon reflex could be as easily elicited as before. 2. The division of all the nerves passing to the knee-joint had no effect upon the production of the phenomenon. 3. The patella tendon was ligatured close to the tibia, then cut off at its insertion into the bone, and entirely separated from the knee-joint. If traction were then made upon the muscle by gently pulling the ligature attached to the tendon, contraction of the quadriceps was easily produced by lightly striking either the patella tendon or the ligature itself. Complete separation of the lower part of the quadriceps from the thigh did not cause cessation of the phenomenon. From these results the author concludes that *the centripetal paths of the knee-phenomenon lie in the muscles themselves and in the crural nerve*; also that *the irritation of the nerves first takes place at the point of junction of tendon and muscle, or in the layers of the former next adjoining the muscular tissue*. Dr. Sachs described, in 1875, nerves passing from the muscles into their tendons and there ending, always in close proximity to the muscular substance. These are the nerves which the author believes to be stimulated when the tendon is struck; the tendon itself merely acts as an elastic medium for the transmission of the vibrations from the point struck to the boundary between muscle and tendon. This explains the necessity for a certain degree of tension of the tendon before the knee-phenomenon can be produced. It was found that a very slight stretching of the crural nerve, such as did not cause any loss of tone in the muscles supplied, was yet sufficient to cause cessation of the tendon-reflex; this shows that a very finely sensitive condition of the nerves is necessary to the production of the phenomenon.

A series of observations were made upon the two patients mentioned above, with the view of ascertaining what period of time elapses between the striking of the patella tendon and the commencement of muscular action. Seventy-one observations upon the case of spastic spinal paralysis gave an average of 0.061"; seventy-five observations upon the case of paresis of the lower limbs yielded an average of 0.058". In order to obtain the exact period which elapses between the delivery of the blow upon the tendon and the time when the nerve-stimulus reaches the muscle, we must subtract from the above figures the period which elapses between the time at which the stimulus reaches the muscle and the time at which the muscle commences to contract. This was found by a number of experiments to be, in the first case, 0.027", and in the second, 0.026". Subtracting these from the results previously given, we get 0.034" and 0.032", as the time necessary in these two cases for the stimulus caused by striking the patella tendon to reach the quadriceps muscle. It will be seen at once that this period of time is too long for the mere transmission along the tendon of the vibrations caused by a blow; on the other hand, its shortness (for a reflex action) is quite explained by the results of the vivisections, which showed that only a very small portion of the spinal cord is con-

cerned in the production of the phenomenon. Taking thirty mètres per second as the rate of transmission of nerve-force, the periods given above would just suffice for the transmission of the impression from the knee to the spinal cord and back to the centre of the thigh, but would hardly leave anything remaining for the transference of impression from the sensory to the motor nerve in the cord.

The author next makes some most interesting observations concerning the physiological signification of the knee-phenomenon and other instances of tendon-reflex. A reflex contraction can be produced in any muscle in the body by percussion of its tendon, if the latter be favourably situated for the experiment. From this the author deduces that *every muscle in the organism is in such relationship with the spinal cord, that it possesses not only centrifugal motor nerves, but also certain centripetal nerves, which have their origin in those parts of the tendon which are nearest to the muscular fibres, and which pass into the spinal cord through the posterior roots of the spinal nerves*. From a teleological point of view, it is most unlikely that such an extensive and complicated nervous apparatus as this should exist without serving some useful purpose; at the same time the mere production of contraction in a muscle, by a jar upon its tendon, does not apparently subserve any useful physiological purpose. The author believes that the function of the nervous circuits mentioned, is to produce and preserve the condition known as muscular tone throughout the muscles of the body. He lays down the following proposition. 'The muscles of the organism are always in a state of tonic contraction (Brondgeest, E. Cyon, Steinmann). This muscular tone is most probably of reflex origin, and due to the constant tension of the tendons, which is caused partly by the anatomical attachments of the muscles, and partly by the position, at any given moment, of the levers with which they are connected.' This tension acts as a constant stimulant to the nerves of the tendon, and produces, as a reflex phenomenon, tonic muscular contraction. The automatic reflex actions thus brought about have a most important bearing upon voluntary movements. When we put into action any group of muscles, the tone of their antagonists commences at once to increase, owing to the augmented tension of their tendons. If this muscular nervous system be deranged (as by disease of the spinal cord), the corrective action of the antagonistic muscles becomes lost, and the movements become jerky and uncertain, as seen in cases of tabes dorsalis. The author terms this kind of ataxy 'peripheral', and remarks that it is developed side by side with a flaccidity and want of tone in the muscles, due to the same lesions in the cord. Experiments are mentioned, which prove that division of the posterior roots of the spinal nerves in the frog produces the symptoms of 'peripheral ataxy' as just described.

This interesting paper concludes with a few clinical observations. From the very limited portion of spinal cord which participates in the production of the knee-phenomenon, it follows that the absence of this reflex *alone*, in any patient, would indicate a similarly limited lesion. The diagnosis of tabes dorsalis on the sole ground of absence of the patella tendon-reflex is not justified; but if, by clinical observation, all other local affections of the cord can be excluded, then this symptom points unmistakably to the existence of tabes. The tendon-reflexes of various muscles may yield valu-

able diagnostic aid in ascertaining the topography of diseases of the spinal cord.

CHAS. S. W. CORBOLD, M.D.

SIMPSON ON CASE-TAKING IN GYNÆCOLOGY.

PROFESSOR A. R. SIMPSON, in a paper read before the Edinburgh Obstetrical Society, and published in the *Edinburgh Medical Journal* for February, states that he has lately drawn up a method of case-taking for the immediate purpose of guiding the clinical clerks in keeping records of gynecological cases. It is printed in the form of a double card with two columns. On the left hand page or column are noted the points regarding which information is to be gained from the anamnesis or recollection of the patient. An experienced practitioner in this as in other departments of medicine will have learned how to draw from the patient a few facts of her history that guide him to the seat of mischief, and may even give him a fair impression as to its probable nature; but the student who is learning to investigate requires to have some such chart as this to guide him in his inquiries, and it may even prove helpful sometimes to the skilled practitioner who wishes fully to investigate and keep a record of his cases.

ANAMNESIS.

1. NAME; AGE; OCCUPATION; RESIDENCE, MARRIED, SINGLE, OR WIDOW; DATE OF ADMISSION.
2. COMPLAINT AND DURATION OF ILLNESS.
3. GENERAL HISTORY OF—(a) Present Attack; (b) Previous Health; (c) Diathesis; (d) Social Condition and Habits; (e) Family Health.
4. SEXUAL HISTORY.—
 - (i) Menstruation—
 - A. Normal—(a) Date of Commencement; (c) Type; (c) Duration; (d) Quantity; (e) Date of Disappearance.
 - B. Morbid—(a) Amenorrhœa; (b) Menorrhagia; (c) Dysmenorrhœa.
 - (2) Intermenstrual Discharge—(a) Character; (b) Quantity.
 - (3) Parovaria.
 - (4) Pregnancies—(a) Number; (b) Dates of First and Last; (c) Abortions; (d) Character of Labours; (e) Puerperia; (f) Lactations.
5. LOCAL FUNCTIONAL DISTURBANCES OF—(a) Bladder; (b) Rectum; (c) Pelvic Nerves and Muscles.
6. GENERAL FUNCTIONAL DERANGEMENTS OF—(a) Nervous System; (b) Respiratory System; (c) Circulatory System; (d) Digestive System; (e) Ejectories.

PHYSICAL EXAMINATION.

1. GENERAL APPEARANCE AND CONFIGURATION.
 2. MAMMÆ.
 3. ABDOMEN—(a) Inspection; (b) Palpation; (c) Percussion; (d) Auscultation; (e) Mensuration.
 4. EXTERNAL PUDENDA.
 5. PER VAGINAM—(a) Orifice; (b) Walls and Cavity; (c) Roof; (d) Os and Cervix Uteri.
 6. COMBINED EXAMINATION—(Abdomino-Vaginal, Recto-Vaginal, Abdomino-Recto-Vaginal, Abdomino-Vesico-Vaginal)—
 - (1) Uterus—(a) Size; (b) Shape; (c) Consistence; (d) Sensitiveness; (e) Position; (f) Mobility; (g) Relations.
 - (2) Fallopian Tubes.
 - (3) Ovaries—(a) Size; (b) Situation; (c) Sensitiveness.
 - (4) Peritoneum and Cellular Tissue.
 - (5) Bladder. (6) Rectum (7) Pelvic Bones.
 7. USE OF—(a) Speculum; (b) Volsella; (c) Sound; (d) Curette; (e) Aspiratory Needle; (f) Tent or Dilator.
 8. PHYSICAL CHANGES IN—(a) Nervous; (b) Respiratory; (c) Circulatory; (d) Digestive; (e) Ejunctory Organs.
- DIAGNOSIS.
PROGNOSIS.
TREATMENT.
PROGRESS AND TERMINATION.

Every case will not, of course, demand inquiry regarding every point registered in the several paragraphs. But, on the other hand, any case that comes before us may demand inquiry as to any of these points. And it is well in the history of each case to get information as to some of the sections of sexual history in paragraph 4. It is important, for example, to get all the information possible concerning menstruation.

The second section of the sexual history has regard to the discharges of various kinds that may occur during the intermenstrual periods. These have sometimes been ranged under the general cate-

gory of leucorrhœa, but they vary from the clear albuminous discharge of a uterine catarrh, through the mucous, purulent, creamy, and flocculent discharges of chronic vaginal and cervical inflammations, to the watery, sanious, fœtid, fecal, and urinary discharges attendant on more grave disorders. These are such frequent accompaniments of uterine disease that inquiry as to their character and quantity in most cases becomes imperative. The third paragraph, on the other hand, will more rarely require to be referred to.

The right-hand column gives suggestions for conducting the Physical Examination of the patient. It indicates both the subjects that chiefly require investigation, and the means to be employed in bringing the senses of sight, hearing, and, above all, touch, to bear upon the organs to be explored.

Schultze, Spencer Wells, Beigel, and others have given outline sketches of the abdomen and pelvic cavity and organs, with the purpose of presenting more graphically any changes that occur in the relations of these organs to each other, or to tumours or effusions that may be found among them. The progressive growth of tumours, or the progressive diminution of effusions or changes in position of the pelvic viscera, can thus be more distinctly registered. Dr. Simpson furnishes clinical clerks with the outline diagrams.

HEGAR ON OOPHORECTOMY.

AT the recent meeting of the Society of German Naturalists, in the Gynecological Section, Prof. A. Hegar, of Freiburg, read a paper on what he terms Castration, but what is generally known as Battey's operation. He reports forty-two cases, an unusually large number, but which may be accounted for by his having many patients sent to him from a distance.

He divides his cases into five groups, the first of which includes thirteen cases, all of small tumours. He remarks that the line between ovariectomy and castration is very hard to draw; the indications and the steps of the operation when the tumour is small, resembling very nearly castration. He has therefore included all cases where both ovaries were removed, and where they did not exceed a billiard ball in size. The tumours were cystomata, dermoids, parovarian, and the so-called tubo-ovarian cysts; both tumours being of the same variety or were in combinations. There were some cases of tubo-ovarian cysts, hydrosalpinx with adhesion of the fimbriæ to the degenerated ovaries. These were all double and complicated with extensive adhesion, and depended on inflammatory process in the pelvis. Other complications in this group were congestion of the uterus and retroversion. As a diagnostic mark between an uterine fibroid and a small ovarian tumour adherent to the uterus, he proposes a forcible attempt at separation by the finger in the vagina, in which a sort of fremitus can be appreciated from the yielding adhesions. These cases he considers as extremely difficult, the operation fully equalling an extremely complicated ovariectomy. There were two deaths, one from sepsis and one from incarceration; eight were fully cured, and three still complained of pains in the pelvic regions. The second group included twelve cases of fibromata. The tumours were not very large, not reaching above the umbilicus, excepting one only, which reached great size. He considers castration in the case of very large tumours to be of very doubtful propriety. There were three

fatal cases—all septic peritonitis. In six cases the menopause ensued, and the tumours shrivelled. In one case included in the first group, there was a fibroid, which also disappeared. In the case of the large tumour mentioned, the flow stopped for six months and the patient improved; but, owing to bad surroundings and hard work it returned, the tumour grew rapidly, and the patient died eleven months after the operation. Necropsy showed an enormous fibro-cyst. In the third group there are five cases of so-called chronic oöphoritis, cystic degeneration of the follicles with changes in the stroma, but without any neighbouring inflammation. One death occurred from incarceration. In three cases, there was immediate improvement of all the symptoms. The other case was new, but was improving. In the fourth group there were five cases where the indication for the operation was uterine disease, such as incurable retroflexion and acute antelexion. There was one death from ileus. In two cases menopause occurred with improvement of the symptoms, and two cases are quite recent. The fifth group is of particular interest, including cases of chronic recurring pelvic inflammation, such as perimetritis and parametritis with adhesions, salpingitis, and imbedding of the ovary in firm and solid exudations. The symptoms are always severe. There were seven cases; and, notwithstanding that the operations were often difficult and long, there were no deaths. In three cases there was menopause and cure, in one menopause and great improvement. In another there was a regular typical flow, but great improvement. Two cases were too recent to be judged. The mortality in the cases was only 16.6 per cent. In forty-seven other cases known to the author there is a mortality of 32 per cent. (The average of total deaths was nearly 25 per cent.) Four of the deaths were from septic poisoning, and three from ileus, the strangulation resulting from adhesions. The results were often disturbed in the beginning by symptoms similar to those met with at the menopause. The cases seem to prove the old idea of the dependence of menstruation on ovulation. In twenty-six of the thirty cases, the menopause was complete, in only one case there was a typical flow, due perhaps to the periodical congestion of a tender mass of exudation formed around a ligature. Strict antiseptic was used except in the first case (fatal), but not according to Lister's method. The spray he considers harmful.

The opening in the abdomen, he considers, has to be made proportionately larger than in ovariectomy, generally the introduction of two fingers is enough. Great care is needed in putting on the ligature and in closing the abdominal wound, so as to avoid abscesses.

In the discussion which ensued, Dr. Schröder of Berlin reported two cases. He operates by laparotomy and uses spray, and has seen no bad results from it. Dr. Freund of Strasburg reported three operations for myomata, and one for hystero-epilepsy, with one death. Menopause followed in all the cases, and in one only was there no atrophy of the tumour. Dr. von Langenbeck expressed his surprise that absence of the vagina had not been mentioned as an indication for this operation. He reported one such case. Menstruation occurred only once after the operation. Dr. Martin reported three new cases; two for neuralgia. In one case there was incomplete development of the uterus; both ovaries lay on the left. All these cases recovered. Dr. Müller of Bern had operated three times. In two cases the operation

was not completed, as the ovaries were very adherent. The third case, ovarian neuralgia, was cured. Dr. Czerny of Heidelberg had three cases, one dying of septicæmia. In one case of hysteria, with enlarged ovaries, there was no improvement. In the other case (hysteria, with retroflexion) he had done Kœberlé's operation at the same time. He had also twice removed the uterus without the ovaries, with the result of stopping all flow. (*Centralblatt für Gynækol.*, No. 20 and 22, 1879.) In No. 20 of the same journal, A. Schücking of Harzburg reported another successful case. (See LONDON MEDICAL RECORD, Nov. 15, 1879, p. 447.) In the *British Medical Journal* for May 24, 1879, Prof. A. R. Simpson reports a successful case of castration, or, as he called it, oophorectomy. His case was one of dysmenorrhœa, with ineffectual division of the cervix uteri and pelvic inflammation; 'senescence' followed. After giving the history of his case, he gives a long commentary, with a table of thirty-five cases, when both ovaries were removed. He gives the credit of having brought forward and popularized the operation entirely to Dr. Battey, as well as of having independently conceived and performed it. He gives as the indications, dysmenorrhœa, menorrhagia (from fibroids), amenorrhœa from absence or atresia of the vagina, and complicated with either threatened insanity, hystero-epilepsy or convulsions. The mortality in his cases is 37.1 per cent. He prefers laparotomy to elytrotomy, and uses carbolic silk ligature, and then cuts the pedicle.

Besides the cases given above, the reporter (*American Archives of Medicine*) has collected a number of cases, some of which have been published and a few are new.

Dr. Hunter McGuire of Richmond, Virginia, reports two cases. They were both ovaritis; Lister's antiseptic method and laparotomy were used. 'In both cases both ovaries were removed and the pedicles tied with carbolic catgut. The result of the operation in one is eminently successful, while in the other there is a marked and continuous improvement, with a gradual subsidence of all trouble traceable to ovarian sympathy.' Dr. Goodell sends two unpublished cases. The operation in each case was begun *per vaginam* but finished by laparotomy. The result in the first case was fatal; the indication was 'a womb bulbous and knotty with multiple fibroids'. The second case recovered, the indication being 'pernicious menstruation and threatened insanity'. Dr. Sims has had three new cases, all quite recent, and all successful. The indication for the operation in each case was the occurrence of epileptoid attacks. The mode of operating is not mentioned. Dr. Noeggerath has had ten cases, all done by laparotomy. One death occurred from sepsis and one from hæmorrhage. Dr. Battey has had three new cases. Dr. Trenholme writes 'that the case in which I removed the one ovary is much improved but not well, and as for the other there is nothing new to report'.

The total of cases thus collected is 150; of these 104 recovered and 26 died—or a mortality of 20 per cent. The reporter counts Esmarch's case, although it was one of hernia, and also all of Müller's, for although in two of them the operation was not finished, still the danger to the patient was fully as great.

Of the cases operated on by laparotomy, leaving out Dr. Sims's case as uncertain, there was a mortality of 20.7 per cent. The cases by elytrotomy show a mortality of only 19 per cent. Still this

OPERATOR.	Laparotomy.		Elytrotomy.		REFERENCE.
	Total.	Recoveries.	Deaths.	Recoveries.	
Hegar.....	42	35	7	..	<i>Centralbl. für Gyn.</i> No. 20, 1879.
Schroeder.....	2	0	0	..	<i>Ibid.</i>
Freund.....	4	3	1	..	<i>Ibid.</i>
Von Langenbeck.....	1	1	..	..	<i>Ibid.</i>
Martin.....	3	3	..	..	<i>Ibid.</i>
Muller.....	3	3	..	..	<i>Ibid.</i>
Czerny.....	2	2	..	..	<i>Ibid.</i>
Schucking.....	1	1	..	..	<i>Ibid.</i>
Batthey.....	12	9	3	8	<i>Trans. Am. Gyn. Soc.</i> , vol. 1.
Trenholme.....	2	1	1	..	<i>Obstet. Journ.</i> , G. B. & I., 1876.
Goodell.....	9	..	1	3	<i>Lessons in Gynecology.</i>
Sims.....	7	3	4	..	<i>Brit. Med. J'l.</i> , Dec. 8, 1877.
Engelman.....	3	..	3	..	<i>Am. Journ. Obstet.</i> , vol. xi.
Thomas.....	2	1	1	..	<i>Trans. Am. Gyn. Soc.</i> , vol. i.
Peaslee.....	1	..	1	..	<i>Ibid.</i>
Sabine.....	1	1	..	..	<i>N. Y. Med. J'l.</i> , Jan. 1875.
Von Nussbaum.....	1	1	..	..	<i>Dr. Goodell, loc. cit.</i>
Tauffer.....	1	1	..	..	<i>Centralblatt f. Gyn.</i> , 13, 1879.
Netzel.....	1	..	1	..	<i>Ibid.</i> 14.
Pernice.....	2	2	..	..	<i>Arch. f. Gyn.</i> , Bd. xiv, H. 3.
Alberts.....	1	..	1	..	<i>Centralblatt f. Gyn.</i> , 18, 1879.
Spencer Wells.....	1	1	..	..	<i>Am. Journ. Obstet.</i> , Oct., 1879.
Simpson.....	1	1	..	..	<i>Brit. Med. J'l.</i> , May 24, 1879.
Kaltenbach.....	1	..	1	..	Hegar, <i>Saml. Klin. Vorträge.</i>
J. Gilmore.....	1	1	..	..	<i>Am. Journ. Obstet.</i> , July 1878.
Martin.....	2	2	..	..	<i>Berl. Med. Wochen.</i> , 16, 1878.
Pallen.....	1	..	1	..	<i>Am. Journ. Obstet.</i> , July, 1878.
E. Kœberlé.....	1	1	..	..	<i>Nouv. Dict. de Méd. et Ch.</i> , 1878.
W. C. Frew.....	1	1	..	..	<i>Am. Journ. Med. Sci.</i> , July, 1878.
Prince.....	1	..	..	1	<i>Obstet. Gazette.</i>
Welpner.....	1	1	..	..	<i>Centralblatt f. Gyn.</i> , 25, 1879.
Esmarch.....	1	1	..	..	<i>Ob. Journ. G. B. & I.</i> , Feb. 1879.
Tait.....	2	2	..	..	<i>Brit. Med. Journ.</i> , Nov. 8, 1879.
Goodell.....	2	1	1	..	Personal communication.
West.....	1	..	1	..	<i>Ibid.</i>
Sims.....	3	3	..	..	<i>Ibid.</i>
Noeggerath.....	10	8	2	..	<i>Ibid.</i>
Hunter McGuire.....	2	2	..	..	<i>Ibid.</i>
	130	87	22	17	4

apparent advantage is more than counterbalanced by Dr. Goodell's experience, where in two cases he was unable to reach the ovaries after opening the vagina, but had to increase the danger by making a second incision.

Later reports from Drs. Sims, Goodell, and West, show that all their cases, classed above as doubtful, have recovered. This will bring down the death-rate somewhat.

WEIR ON LITHOLAPAXY.

In this paper (*American Journal of Medical Sciences*, Jan. 1880) Dr. Weir, of New York, continues to sound the note of warning raised in this country by Sir Henry Thompson and Mr. Cadge against the uncompromising adoption of Dr. Bigelow's method of crushing and removing stone from the bladder, and the too enthusiastic use of his instruments.

Dr. Weir begins by pointing out that Dr. Bigelow, in demonstrating the tolerance of the bladder to the crushing of a stone, provided all the fragments are removed, has simply repeated the teaching of Heurteloup, who in 1846 published sixty-nine cases in which vesical calculi were removed at a single sitting with but three deaths; two being due to coincident disease of the kidney, and one due to cerebral apoplexy, and Heurteloup's remark is quoted that the cystitis which followed some of the operations 'lasted but a short time, for it was not kept up by fragments, since the latter had been entirely removed'. As Heurteloup had no aspirator, but removed all the detritus in the jaws of his lithotrite, his followers found that complications ensued, when

they carried out his plan in their practice, and the method fell into disuse. It is by having rendered aspiration of the bladder efficient that Dr. Bigelow has been able to revive Heurteloup's method, and to obtain for it a favourable reception and trial by the leading surgeons of the present day. It is this efficient means of evacuating the fragments, Dr. Weir asserts, that is incontestably the novel point in Bigelow's operation.

Dr. Weir has operated upon two individuals according to Bigelow's plan.

CASE I.—Age 73. Uric acid stone: 365 grains. Death; due to renal abscess and ureter blocked with several uric acid calculi.

CASE II.—Age 65. Phosphatic stone: 90 grains. Obstinate cystitis. In two months more phosphatic matter was removed; weight not given. Much fever. He afterwards progressed favourably.

He then relates the following nine cases, of which he has been an eye witness.

CASE III.—By Dr. Peters. Age 64. Uric acid stone: 253 grains. Much vesical irritation three days. Recovery complete.

CASE IV.—By Dr. Allen. Age 51. Phosphate stone: 398 grains. Rapid recovery.

CASE V.—By Dr. Sands. Age 69. Uric acid stone: 90 grains. Speedy recovery.

CASE VI.—By Dr. Sands. The patient had been lithotomised on four occasions. Litholapaxy was practised, and altogether 360 grains of phosphatic matter removed. Good recovery.

CASE VII.—By Dr. McBurney. Age 32. Phosphatic stone: 180 grains. Recovered.

CASE VIII.—By Dr. Hutchinson. Age 76. Phosphatic stone: weight not given. Recovered.

CASE IX.—By Dr. Fox. 154 grains removed. (Nature of stone and age of patient not given.) Death. Bladder found intensely inflamed and either lacerated or ulcerated. Pelvic peritonitis.

CASE X.—By Dr. Wynkoop. Age 55. Phosphatic stone: 90 grains; next day peritonitis: death. Bladder found lacerated in several places—evidently the cause of the peritonitis.

CASE XI.—By Dr. Wynkoop. Age 34. (Nature of stone not given): 486 grains removed, and the operation given up, as evacuating tube could not enter bladder, on account of a false passage made by the point of the tube catching in an abrasion, caused by Bigelow's lithotrite having to be withdrawn badly impacted. Two weeks afterwards, a fragment had to be extracted by an incision into the urethra, three inches from the meatus. The patient then had abscess in the scrotum, followed by urinary fistula, and ultimately was submitted to the operation of median lithotomy. He has since done well.

Three of the eleven cases therefore were fatal, and deaths must be accepted as the result of operation. The last case also is a singularly unfortunate one, and the crushing operation first performed can hardly be credited with the recovery of the patient.

Dr. Weir then discusses the instruments used. He expresses himself as pleased with Bigelow's lithotrite, and he much prefers the straight evacuating tubes to the curved ones. He cannot praise Bigelow's aspirator, as it admitted air into the bladder, and Sir Henry Thompson's aspirator is preferred, as when it was used the introduction of air into the bladder was easily avoided. With regard to the operation itself, Dr. Weir did not follow Dr. Bigelow's advice to inject warm water into the bladder 'until the water is expelled through the loosely held urethra, by the side of the tube'. Clinically, it was ascer-

tained that at times this test either failed to work, or the water only escaped after fourteen or sixteen ounces had been slowly injected, far too great distension being thereby caused. Dr. Weir also considers Bigelow's advice, to depress the floor of the bladder with the female blade while crushing, to be dangerous, as by doing so, sharp pieces of stone are pressed into the mucous membrane of the bladder. Dr. Wynkoop's first case (Case 10) illustrates this accident, the death being due to peritonitis caused by laceration of the bladder. The paper concludes with an earnest warning that surgeons must not conclude that injuries to the bladder are not dangerous provided the stone is entirely removed. [The writer fears that Bigelow's operation may be considered so easy and simple that the inexperienced may attempt it, and he concludes by quoting Mr. Cadge, 'I think the new plan (of operating) should not be attempted by any one who has not already acquired by plentiful experience on the living, and by repeated experiments on the dead body, all the little knacks and tricks which go to make up successful lithotrity'.—*Rep.*]

G. BUCKSTON BROWNE.

WEINLECHNER, BILLROTH, AND OTHERS ON THE TREATMENT OF STRICTURES OF THE ŒSOPHAGUS.

IN the course of a recent discussion in the Vienna Medical Society (*Allgemeine Wiener Med. Zeitung*, No. 42, 1879) Dr. Weinlechner, who opened the discussion, said he would confine his remarks to the cases requiring Œsophageal or gastric fistulæ. One indication for such an operation would of course be the presence of a foreign body so situated, that it could be neither extracted from above nor driven downward to the stomach. Besides, there were cases in which scarcely a drop of fluid nutriment could be taken, and finally, there might be a diverticulum of the Œsophagus.

He had twice performed Œsophagotomy for very tight strictures of that tube. In 1868 he operated upon a woman, aged 34, who had complained of difficult deglutition for seven months, had been able to swallow only fluids for three months, and not even these for three days prior to her admission to the hospital. The patient was much emaciated, was feverish, and coughed incessantly. A large mass was felt at the lower extremity of the pharynx, completely closing the orifice of the Œsophagus. A small sound could not be forced past it. The operation was performed, and she was fed with concentrated fluid nutriment through a catheter in the fistula made in the neck, but died on the fourteenth day of pneumonia of the right lung. Examination showed beside this a tubercular infiltration of the lungs, and at the upper extremity of the Œsophagus a thick epithelial carcinoma, which involved also the posterior half of the larynx. Were he to again encounter such a case, he would (following Czerny) attempt the removal of the neoplastic growth, even should it involve the resection of a portion of the Œsophagus.

Dr. Weinlechner's second case was one of impermeable stricture produced by swallowing concentrated lye. The child had swallowed absolutely nothing for five days; the constriction was in the vicinity of the manubrium sterni. (Œsophagotomy was here performed, in the hope of more easily introducing the sound, and it appeared at first to be

successful, as the bougie passed through the fistula and beyond with apparently no obstruction. But, as milk was injected through it, the child became instantaneously livid, gasped for breath, and died in twenty hours. *Post mortem* examination revealed right-sided purulent pneumonia, and proved that the milk had been forced into the loose connective tissue of the mediastinum.

After such experience, the speaker felt more inclined to resort to gastrostomy, particularly as it appears to be more properly indicated in cases of cicatricial or even malignant stricture not situated in the neck, and in case of foreign bodies of unusual size or shape. He referred to the statistics of this operation in carcinoma of the stomach, and stated that Schönborn's patient had lived for three months after the operation.

Dr. Weinlechner had performed gastrostomy twice. The first patient was a boy eleven years of age, who died of peritonitis in fifty hours. The next was a boy, aged 17, who had two years before swallowed caustic potash and had recovered. When admitted he had been unable to swallow for six days. Introduction of a bougie was impossible. Death followed the operation in thirty hours. In both cases artificial nourishment by clysters proved of no service whatever. Although he had himself been so unfortunate, Verneuil's statistics were extraordinarily favourable.

Professor Billroth stated as his opinion that, in the majority of cases of stricture the result of carcinoma, the introduction of bougies only irritated the growths, accelerated ulceration, and caused more rapid death. When unable to pass the stricture with an elastic bougie, he obtained another (elastic and hollow) and filled it with quicksilver, the weight of which sometimes caused it to find its way through. He had sometimes employed bougies of tin, but their use was extremely hazardous. Such patients died either from starvation, marasmus, or perforation of the Œsophagus or stomach. He had twice performed Œsophagotomy in cancerous strictures, and then from the opening in the neck had pushed past the neoplasm; but both the patients died very soon, and he had given up this plan. Computing that the infiltration of the lymphatic glands occurs quite late in Œsophageal cancer, he began to think seriously of the radical removal of these neoplasms. He made his first experiments upon large dogs, cutting out a portion of the Œsophagus, and feeding them for a considerable period through tubes. The animals were very tractable, soon learning to come of their own free will to be fed in this manner. On examining these after killing, he found that the borders of the Œsophageal mucous membrane so closely approximated, that although an inch and a quarter had been cut out, only a slight annular cicatrix remained. Such experiments were very encouraging. Professor Czerny had done the first operation of this character in the case of a woman. He removed the growth, together with a portion of the Œsophagus, but did not permit the fistula to heal because he feared a return. The woman lived at least a year, but her subsequent history was unknown. Partial resection of the Œsophagus was also possible, and he considered it advisable to make such attempts, to then close the fistulæ, and introduce food by the mouth. This has proven successful in dogs. He had performed Œsophagotomy for the extraction of foreign bodies three times in children and once in an adult. The result was uniformly successful.

Although gastrostomy had been highly extolled

during the past few years, especially in cancer of the cardiac orifice, Dr. Billroth could not recommend it, as the procedure had thus far given the patients only a very brief respite. He believed the same statement would apply with equal force to the formation of artificial anus in cancer of the rectum. He did not think much had been gained in the single case in which he had so operated. The patient's nutrition was improved, he lived an entire year, but his pain was not at all alleviated. Finally, Dr. Billroth narrated two unfortunate cases in which, on introducing the sound through the œsophagus, a perforation of the stomach had resulted, causing diffuse peritonitis and death within twenty or thirty hours. He relied very little in any of these cases upon artificial nourishment by enemata.

Professor Weinlechner referred to several cases in which death came on with the symptoms of perforation of the œsophagus, and in which *post mortem* examination failed to discover any wound. In all these, however, pleuritis was present. Professor Billroth stated that in distension for the passage of fluids the cicatrix might be torn, and thus a pericœsophagitis, mediastinitis, and pleuritis might rapidly follow. Dr. Teleky mentioned two cases of œsophageal stricture, the introduction of sounds through which proved unsuccessful. In one he perforated after he had repeatedly passed it with great ease. Section proved that death of the tissues had taken place about the stricture, thus rendering perforation almost unavoidable. In the second case, fatal hæmoptysis followed, but no perforation was made. The discussion concluded with the report by Billroth of one, and by Weinlechner of several, cases of œsophageal stricture caused by syphilitic ulceration.

BLAKE AND HAMILTON ON THE USE OF DILUTE NITROUS OXIDE GAS IN THE TREATMENT OF MELANCHOLIA AND NERVOUS EXHAUSTION.

DRS. J. E. BLAKE AND A. M. HAMILTON write in the *New York Medical Record*, of January 31, that this gas is administered for its stimulating effects, and, taken with a greater or less proportion of air, it produces a species of exhilaration with very little subsequent reaction, the primary excitement being akin to that which commonly follows the use of champagne or any sparkling dry wine. There is a feeling of lightness and buoyancy, the individual becomes loquacious, while the heart's action is increased, and there is a momentary dizziness. The administration of the gas should not produce other effects, for intoxication and anæsthesia imply a step beyond stimulation, and therefore should be avoided. If the fingers grow numb, or if any object upon which the patient fixes his gaze become blurred, then the use of the gas should be discontinued.

From the condition of exhilaration described the patient recovers, and for the rest of the day feels decidedly brighter and more active. If he be depressed before the gas is given, or suffer from an attack of 'the blues', the effect is much more marked. Patients who have placed themselves under the care of the writers, who have at first been dejected, who have worried about their absence from home, or about their children, or business, have in a few days become entirely accustomed to their new surroundings, and have indulged in amusements and pursuits they never were able to enjoy. It virtually takes the

place of alcoholic stimulation, without depression, and for this reason the writers suggest its use in the treatment of alcoholism, especially in the early stages of delirium tremens. As a remedy in insomnia it has no equal, and when not given just before bedtime, but in the morning or middle of the day, it, as a rule, procures refreshing sleep, even for those who have relied entirely upon anodynes.

In cases of so-called 'spinal irritation', or in cases of 'nervous prostration', in women who have no discoverable uterine disease, they have good reason to think it acts admirably, as it also does in hysteria, or the form of nervous derangement bordering on melancholia. When the circulation is defective, and when there are lividity of the hands, constipation, slow pulse, and rough, scurvy, mud-coloured skin, it in a short time greatly improves the condition of the patient. It, so far as they have seen, favours the assimilation of food, hastens the action of iron, and increases functional activity. Appetite and sleep, and disposition to take exercise, are all improved.

The remedy is not indicated in sthenic affections, or when there is a tendency to cerebral congestion or excitement, but rather for the irritability of exhaustion. It therefore, the writers have found, increases the trouble in vigorous, full-blooded subjects. The gas should be used well diluted with air, which may be accomplished by opening the valve near the mouth in the instrument provided for the purpose. Daily inhalations of not less than twenty gallons of gas should be used, the amount of air taken as well into the lungs being sufficient to prevent intoxication.

WEIR ON ANTISEPTIC DRESSINGS.

DR. ROBERT F. WEIR writes, in the *New York Medical Journal*, January 1880: In the *American Journal of Medical Sciences*, for April 1879, I called attention to the advantages of carbolised jute over Lister's carbolised gauze, not only in accommodating itself to the inequalities of surface in certain parts of the body, as for instance the groin and the region of the breast and axilla, but also in being cheaper and more readily manufactured. In the latter respect particularly I again beg leave not only once more to commend the prepared jute,* but also to testify to the excellent gauze that can now be made off-hand by means of a formula that has recently been made known to us by the German surgeon, von Bruns. (See p. 102).

The gauze of Von Bruns differs, it will be noticed, from Lister's in the substitution of castor-oil for paraffin. Instead of letting the gauze completely dry by the evaporation of the alcohol, it can, if it is not immediately required, be wrapped while yet wet in rubber cloth, and put away in a tight box for future use. This careful preservation of all carbolised materials is imperative; for, while it is true that the resin contained in these various mixtures permits the evolution of carbolic acid to take place slowly, yet experience has shown that, even when such precautionary measures as enveloping the prepared dress-

* Made after the formula of Munnich, by taking for each pound of jute 50 grammes of carbolic acid, 200 gr. of resin, 250 gr. of glycerine, and 550 gr. of alcohol. After immersing the jute in this mixture, prepared by first melting the resin in the alcohol by warmth and then adding the acid and glycerine, it is dried and can be immediately used. Or it can be made by the cheaper method resorted to in the New York and Roosevelt Hospitals, consisting of the replacement of the alcohol by benzine, in the proportion of 10 per cent. of carbolic acid, 40 per cent. of resin, 10 per cent. of paraffin, and enough benzine to moisten a pound of jute.

ings with rubber-cloth or with oiled silk 'protective' have been resorted to, deterioration of the impregnated material will surely take place. In the article referred to, I quoted Munnich as stating that, after eighteen months' preservation, Lister's carbolised gauze was found on testing to have retained as much as 3.8 per cent. of carbolic acid, and that carbolised jute showed after six months a loss of but 3 per cent. of acid. These facts led me to say that 'such data rendered it justifiable to preserve a stock of antiseptic material on hand, provided it be kept strongly compressed if jute, and tightly folded if gauze, and in both cases that it be wrapped in oiled silk or rubber-cloth, and stored in a box in a cool place.' Lately I have had reason to modify this statement, from having been induced to submit the various preparations of carbolised jute and gauze to a quantitative analysis to determine the strength of acid retained in them at varying times from the date of their manufacture. The results have differed considerably from those of Munnich, while the method of testing has been mainly the same resorted to by him. For instance, seven samples yielded the following percentages of carbolic acid when analysed.

1. Carbolised jute, made at the New York hospital, July 12, 1879, and carefully kept wrapped up in rubber-cloth and secured in a box, gave, when tested, November 10, 1879, 1.46 per cent. carbolic acid.
2. Carbolised jute, made November 9, 1879, after Munnich's formula, and freely exposed for three days, when tested November 19, gave 2.95 per cent. carbolic acid.
3. Carbolised gauze, made at the Roosevelt Hospital, August 27, 1879, after Lister's formula, and kept in a box wrapped in rubber-cloth, gave, when tested, November 19, 1.44 per cent. carbolic acid.
4. Carbolised gauze, made at the New York Hospital, September 23, 1879, after Lister's formula, and similarly preserved, gave, when tested, November 19, 1879, 1.57 per cent. carbolic acid.

The percentage given by Munnich of the full strength of Lister's gauze is 5 per cent. In order to have a satisfactory comparison established between the carbolised gauze and carbolised jute, three specimens of prepared jute, manufactured October 20, October 31, and November 13, 1879, were analysed, and gave respectively a percentage 5.80, 4.56, and 5.56 of acid.

These figures explained clearly some disappointments that had recently occurred, wherein, in the treatment of certain injuries and wounds, old jute had been employed, and, in searching for a reason for this, this investigation was resorted to. Reasoning somewhat from the fact that a 1 to 40 or 2.50 per cent. solution is the weakest used in a wound, I should be disposed, though accurate data on the point are yet wanting, not to place in contact with such a wound a dressing of any less strength, and hence have directed that any carbolised jute or gauze below this standard should be recarbolised before being used. The sum of these remarks hence is: 1. That new carbolised material can be easily made by any practitioner, instead of his being dependent, as heretofore, upon a manufacturer in some large city; and 2. That it should be made in comparatively small quantities, not kept on hand too long, and should be preserved in a box in a cool place, tightly rolled up in rubber cloth, oiled silk, or 'protective'.

MEDICINE.

RECENT PAPERS.

1. LACAZE. — On Double Abscess of the Liver, discharging through the Kidney and Bladder. (*La France Médicale*, Dec. 1879.)
2. WOODWARD. — On a Case of Destruction of the Kidneys. (*Transactions of the State Medical Society of Kansas.*)
3. LANGENBUCH. — The Relief of Pain in Locomotor Ataxy by Nerve-Stretching. (*Berliner Klin. Wochenschrift*, No. 48, 1879.)
4. HERITAGE. — On Temperatures in Scarlet Fever. (*New Jersey Medical Transactions*, 1880.)
5. CUNISSET. — On the Clinical Study of Yellow Fever. (*Cronica Medico-Quirurgica de la Habana*, July 1879; *St. Louis Med. and Surg. Journal*.)
6. BODNAR. — On Malarial Bubo. (*Pester Medizinisch-Chirurgische Presse*, 1879, No. 47; and *Centralblatt für die Med. Wissenschaften*, No. 9, 1880.)
7. MAREY. — On Cardiography as an Element in Clinical Diagnosis. (*La Méthode Graphique*, Paris, 1879.)
8. ROCKWELL and STEVENS. — On Intracranial Tumours. (*Transactions of the Medical Society of the State of New York* for the year 1879; and *American Journal of Medical Science*.)
9. DESPLATS. — Contribution to the Study of Cerebral Localisation; Negative Facts. (*Revue Médicale*, Oct. 3, 1879.)
10. VERGA, GIAMBATTISTA. — A Contribution to the Study of Acute Diseases occurring in the Insane. (*Annali Universali di Medicina e Chirurgia*, Dec. 1879.)
11. SCHIRÖTTER. — On Laryngoscopy and Rhinoscopy in Children. (*Monatssch. für Ohrenheilkunde*, Nov. 1879.)

1. Lacaze on Double Abscess of the Liver Discharging through the Right Kidney and the Bladder. — Lacaze reports (*La France Médicale*, December 1879) a case of abscess of the liver opening through the kidney, which is certainly rare and deserving of record. The patient, a young man, aged 24, was a native of the Island of Réunion, but had lived in France since his fifth year. He first came under the notice of the author in August 1878, when he presented himself for examination in order to find out whether he had been properly cured of a pleurisy of the right side, for which he had been treated. At that time he still had a little pain in the side, but no cough or difficulty in breathing, though he was very thin and pale. An examination of the lungs failed to reveal anything wrong, and Dr. Lacaze accordingly gave it as his opinion that the pleurisy had completely resolved. He did not see the patient again till the following November, when he was called to attend him, and found him presenting the following symptoms: he was very much emaciated, the skin was hot and of a pale yellow colour, he had no appetite, and occasional diarrhoea; there was well marked and constant pain in the right side; the pulse was 120-125. The liver extended below the border of the false ribs and was tender to the touch. The pain was relieved by the application of a blister to the right hypochondrium, but two days later a slight prominence was noticeable in this region and careful palpation revealed deep-seated fluctuation. On the fourth day, on visiting his patient, Dr. Lacaze found him much improved, and was informed by him that he had passed a large quantity of urine during the previous night, and on examining a specimen of it he found it to contain a considerable amount of pus. The prominence mentioned above had disappeared. The patient continued to improve after this for a short time, but towards the end of January 1879, all the symptoms returned with increased violence, and

on examining him it was found that the prominence had reappeared, fluctuation could again be noticed, and the urine, though generally clear, contained pus from time to time. Two days later the tumour had increased very much in size and an exploratory puncture proved the presence of pus. After repeated applications of Vienna paste, the abscess, being then close to the surface, was opened, and the escape of 900 grammes of thick chocolate-coloured pus left no doubt of its being connected with the liver. A drainage-tube was inserted to a depth of 10 centimètres, the cavity washed out twice daily with a solution of carbolic acid, and a preparation of iodine and Vichy water was given internally. The supuration diminished gradually, though the pus still maintained the same character, and finally a fistulous opening was established and kept up by pieces of lint. The pus in the urine was of a pale yellowish colour. All the unfavourable symptoms disappeared. At the solicitation of his family, the patient returned to Réunion; on the voyage the supuration increased, and after reaching home, he died of exhaustion at the end of a month. No necropsy was made. In his remarks on the case, which he presented before the Society of Practical Medicine at Paris, the author calls attention to the rarity of this mode of discharge of an abscess of the liver, though similar cases had been reported, among others by Rayer and Neumann. He has seen two cases of abscess of the liver which had opened into the bronchial tube, and a cure followed; but where the discharge had taken place into the intestine, or where they had presented externally, and been opened either by the knife or caustic, a fatal result had always supervened. Taking these facts into consideration, though perhaps something might be hoped for from Dieulafoy's aspirator, he was inclined to agree with the experience of those who saw such cases frequently in tropical climates, that it was best to refrain from surgical interference, and allow them to follow their natural course.

2. *Woodward on a Case of Destruction of the Kidneys.*—Dr. Woodward (*Transactions of the State Medical Society of Kansas*) reports a case of chronic nephritis and cystitis, with kidneys weighing, as removed, respectively fifteen and twenty-one ounces. They were hard, cartilaginous, filled with pus and cysts. The pelvis of one held four ounces. The smaller is described as 'nothing but a great sac filled with pus'. The ureters were much distended and full of pus. The bladder was 'hard and shrunken', with a capacity not greater than one ounce. The mucous coat was inflamed, ulcerated, and even sloughing. No mention is made of convulsions or coma in the history of the case, though some dulness and slowness of mental action is mentioned as existent, but more or less removable by special effort of will, for two years. During the last months no urea could be found in the urine. There is a bare hint that this excretion was eliminated by the bowels. General anasarca, with intense thirst and inordinate appetite, attended the last days. This is certainly a remarkable instance of protracted life and mental action, after practical destruction of the kidneys.

3. *Langenbuch on the Relief of Pains in Locomotor Ataxy by Nerve-Stretching.*—Langenbuch (*Berlin. Klin. Woch.*, No. 48) relates a case of well-marked and very painful locomotor ataxy, in which the acute and sudden attacks of agonising pain caused the patient great suffering in spite of sedatives. Langenbuch, in this case, finding that the left sciatic nerve was specially affected, tried stretching of this nerve with the best results. The wound

healed under antiseptic precautions by first intention; the motor and sensory paralysis disappeared after a few days, and the pains did not recur. Encouraged by this, Langenbuch operated also on both the crural nerves and the right sciatic nerves in the same way, and with the same happy effect on the pains. When the patient made his first attempt at walking, he asserted that he now knew again what he had under his feet, and that he could walk better; and Langenbuch ascertained the unexpected fact that the ataxy had completely disappeared. He proposes at a future time to report his further observations on this case; meantime, he recommends his colleagues, especially in recent cases, to put the treatment by nerve-stretching to further test.

4. *Heritage on Temperatures in Scarlet Fever.*—Dr. Heritage (*New Jersey Medical Transactions*, 1880) writing of the diagnostic value of high temperature at the outset of scarlatina, says that 101 deg. or 102 deg. lead him to assure friends that a febrile attack is not that disease, while 104 deg. or 105 deg. and upward, indicate it, and give token of the severity to be expected. One young man, aged 21, exhibited the extraordinary temperature of 108½ deg., the case being severe, but ending in recovery with no sequelæ. Chlorate of potassa, and five-grain doses of salicylic acid, were given, with iron after desquamation began.

5. *Cunisset on the Clinical Study of Yellow Fever.*—According to Dr. Cunisset (*Cronica Medico-Quirúrgica de la Habana*, July 1879, and *St. Louis Medical and Surgical Journal*) yellow fever is not a poisoning by bile, for bile-pigments can neither be found in the blood nor in the urine, except in very rare cases. The biliary salts exist neither in the matters vomited, fæces, urine, nor blood. Instead of vomiting from biliary poisoning, there seems to be rather a deficiency in the secretion of bile. It is not a poisoning by cholesterin, for this is not found in the blood except in inappreciable quantities. It is not due to uræmic intoxication, for in many fatal cases elimination of urea is not diminished. The blood alone contains an infinitesimal quantity; the quantity of urea, however, is diminished. If, in cases complicated with suppression of urine, the patients die in such a short time, it is because the blood cannot disengage itself of products of incomplete decomposition, these products being intermediate between urea and albuminoids. It is not due to poisoning by ammonium carbonate, as the blood does not contain any, and the urine is decidedly acid in reaction. The author thinks that the true pathology of yellow fever consists in a fatty degeneration of the glandular and muscular tissue and the loss of hæmoglobin in the serum of the blood. The fatty matters infiltrating the viscera owe their origin to a transformation of the proteid element of the tissue. The cause is an incomplete combustion and decomposition. Instead of receiving a quantity of oxy-hæmoglobin, sufficient to oxidize and convert the albuminous substances into urea, the viscera receive less than in their normal state. These materials then are decomposed into fatty and nitrogenised particles. The former remain where they are formed, and the latter pass into the blood and infect or poison it. The author can furnish no positive proof of a smaller amount of oxy-hæmoglobin being sent to the viscera, but says that this is easily conceived when we consider the alterations going on in the blood. It is observed that hæmoglobin is found in the serum; this is from red blood-corpuscles which cannot absorb oxygen, and for that reason split up. Dr. Cunisset supposes that a ferment is

introduced into the organism, this ferment depriving the hæmatin of one-fourth of its oxygen, and thus preventing the formation of hæmoglobin and, through it, of oxy-hæmoglobin.

6. *Bodnar on Malarial Bubo.* — Dr. Bodnar (*Pester Med.-Chir. Presse*, 1879, No. 47; and *Centralblatt für die Med. Wissenschaften*, No. 9, 1880) says that, in the district where he practises, where intermittent fever is endemic, he has frequently met with a peculiar form of disease, of which the following are the characters. Without any apparent cause, without reference to age or sex, painful glandular swellings are formed on various parts of the body; and the patients say that they become especially painful at a certain time of the day. The author gives three cases in illustration of the connection between the inflammation of the lymphatic glands and intermittent fever. In a man, aged 43, who had never had any affection of the genital organs, an attack of gentianian ague was accompanied by considerable enlargement of the spleen and a lymphatic tumour on the right side. The patient recovered under treatment by quinine; the lymphatic abscess opened spontaneously, and soon healed. At the same time, Dr. Bodnar had under his care a girl, aged 16, with swelling of the glands of the left side of the neck; in a few days, intermittent fever set in, and was successfully treated by quinine; the swelling in the neck soon abated, the glands, however, remaining somewhat enlarged. In a child aged 5 years and 7 months, during an attack of intermittent fever, painful enlargement of the inguinal glands on both sides, followed by suppuration, took place.

7. *Marey on Cardiography as an Element of Clinical Diagnosis.* — Marey, in his recent monograph, *La Méthode Graphique*, says: There exists always a perfect synchronism between the two ventricles, and we have never observed the default of synchronism spoken of by certain authors. I will not speak here of the various forms of pulsations of the heart in organic lesions. The exposition of these demands slow development, and to be accompanied by numerous figures representing the different types of cardiac pulsation in each of the valvular lesions, and in cases in which several valves are altered at the same time. This study will constitute an important chapter in a work I am preparing on the circulation of the blood in health and in disease. For a long time I have been collecting data relating to this subject, and, finally, I can now affirm that cardiography ought to be one of the most important elements of medical diagnosis. It completes the valuable evidence, furnished by auscultation and percussion. I will even add that it corrects the testimonies afforded by those two orders of physical signs, for it shows us in what degree the cardiac function is impaired. Now, many errors of diagnosis have been made by estimating the gravity of cardiac lesions in accordance with the intensity of the cardiac *bruits* heard on auscultation; fallacy, also, arises from gauging the actual energy of the cardiac systole by the force of the pulsation felt in the precordial region. The form of the heart's pulsation expresses in what manner the heart fills and empties itself; it reflects, then, the manner more or less perfect in which it performs its functions. A *bruit de souffle*, on the contrary, does not at all correspond in intensity with the degree of cardiac functional trouble. Anæmia originates more pronounced murmurs in a healthy heart, than certain artificial lesions which considerably obstruct the passage of the blood. Moreover, in every cardiac lesion aggravation of the

disease more often shows itself by diminution of intensity of the murmur when the heart, incapable of surmounting the obstacle it meets, relapses and acts in an imperfect manner. The publication of the results I have obtained in human cardiography has been long delayed by the slowness with which the materials for these studies have been collected; by the long series of experiments that have been necessary before precise apparatus which could be easily applied to the patient have been obtained; and by the necessity of previously obtaining the different types of cardiac pulsation corresponding to the different degrees of cardiac activity, or, more properly speaking, to the different volumes of sanguineous waves which the heart sends forth at each of its systoles.

8. *Rockwell and Stevens on Intracranial Tumours.* — In the *Transactions of the Medical Society of the State of New York for 1879*, abstracted in the *American Journal of Medical Sciences*, Jan. 1880, Dr. Rockwell communicates a case of intracranial tumour, interesting from its extremely rapid growth and from the diagnostic use made of simultaneous thermometric observations made on the scalp by means of Broca's device, by which several instruments are applied at one time over different portions of the head (LONDON MEDICAL RECORD, Jan. 15, 1880, p. 1). The side on which the tumour was afterwards found was from two to five degrees warmer than the other, and increased from before backward over two degrees. It was in the occipital region that the growth, and consequent cerebral disorganisation, were discovered at the necropsy. Dr. Stevens reports a case in which an intracranial tumour, apparently existent for years without much influence on health, at last caused great arrest of mental growth, and a return to childish ways, in a previously bright school-girl of 13 or 14 years. Unsteadiness of gait was noted, and deafness of left ear. Strabismus also existed. When 17 years old, she was first seen by the doctor. There was sluggishness of speech, movement, and mental action. She then began to have alarming symptoms, terminating in right hemiplegia, stupor, coma, and death, within a month of her call upon Dr. Stevens. A tumour, apparently upon, or connected with, the auditory nerve, two inches in diameter, occupied a large portion of the 'fossa for the cerebellum, lying between it and the petrous portion of the temporal bone'. The lobe—left cerebellar—was reduced to about one half the normal size. The reporter directs attention to the very slight outward symptoms which for years were produced by this formidable lesion. Obliquity of vision, though changing its character from divergent squint in early childhood to convergent during several last years of life, was indeed the symptom which led to consulting a physician. Deafness of one ear may have long existed undetected, and there were some reasons to suspect it had. The comparatively trivial loss of co-ordination, and the absence of facial paralysis, are noteworthy. The final suddenness of the transition from apparent bodily health to mortal illness is equally striking.

9. *Desplats on Cerebral Localisation.* — M. Desplats (*Revue Médicale*, Oct. 3, 1879), with a view of showing that the positions of the cerebral centres are far from being definitely determined, has published the following four cases. CASE I. A man, aged 34, was admitted into hospital, January 18, 1879, complaining of headache and tremor of the right limbs; the intellect was apparently unimpaired. During the previous fortnight he had been under observation for bronchitis, but had never

shown any head-symptoms. On January 20, he had an attack of right hemiplegia without loss of consciousness; on the 21st there were paresis of the right arm, paralysis of the right leg, convulsion of the upper lip analogous to blepharospasm, and the right pupil was more contracted than the left. In the afternoon, there were convulsions of the right face, soon after which the man died. *Post mortem*, two abscesses were found; one of the size of a large chestnut, in the base of the second left frontal convolution; the other, of the size of a walnut, in the superior part of the left ascending parietal convolution. The overlying cortex was in both cases very thin. Here, then, says the author, there was lesion of a motor region, without paralysis; the paralysis that came on a few hours before death being attributable, not so much to the destruction of motor centres, as to the circulatory or reflex disturbances due to the extension of the disease, and the approach of death. The tremors answer to Charcot and Raymond's prehemiplegic chorea; these authors are wrong, therefore, in looking on this symptom as characteristic of lesions of the posterior part of the internal capsule. CASE II. A man, aged 21, was admitted January 2, suffering from frontal headache and frequent vomiting. Three years previously, he had had purulent otorrhœa with similar symptoms. Till January 31, there was little change in the patient's condition; on that day he became worse, uttered sharp cries occasionally, and had slight nystagmus. On February 1, he was semi-comatose, passed urine and feces involuntarily, and scarcely moved the right limbs. On February 2, he was comatose; in the evening there was a discharge of pus from the left ear. On February 3, the coma was gone; he appeared to understand what was said to him, and followed the movements of the speaker with his eyes, but was aphasic, and replied to all questions 'Oui, un peu'. On February 4, he died. *Post mortem*, otitis, with caries of the (left) petrous bone, was found; no communication existed between the internal ear and the cranial cavity. In the adjacent part of the temporo-sphenoidal lobe, there was an abscess as large as a turkey's egg. Anteriorly, it was separated from the fissure of Sylvius by a tract of inflamed white matter two-fifths of an inch in thickness. The surrounding convolutions were intact; as were also the third left frontal, and the island of Reil. CASE III. A man, aged 72, was seized with right hemiplegia (including the face) on February 17. His speech was affected by the facial paralysis, but he was not aphasic. Sensibility was intact. The patient died on March 3. *Post mortem*, a focus of softening was found in that portion of the brain lying between the parietal and pediculo-parietal sections of Pitres. It occupied the hindmost part of the external segment of the lenticular nucleus, and the adjacent part of the internal capsule. The posterior half of the internal capsule was destroyed. CASE IV. A woman, aged 53, was seized with left hemiplegia on April 13. On May 1, the left side was still hemiplegic; her intellect was enfeebled; there was no anæsthesia, no affection of the special senses. The temperature of the left side was lowered. On May 5, there were congestion of the lungs and conjugate deviation of the head and eyes to the right. On May 6, she died. *Post mortem* examination revealed a hæmorrhagic focus in the external capsule. Anteriorly, it extended as far as the plane of a section through the bases of the three frontal convolutions. Four-fifths of an inch behind this (the pediculo-frontal plane of Pitres) the focus attained its greatest

dimensions; it had destroyed half of the lenticular nucleus, and the lenticulo-optic portion of the internal capsule. W. J. DODDS, M.D.

10. *Verga on Acute Diseases in the Insane*.—The author gives a careful analysis of twenty-two cases of variola and varioloid which came under his observation among the inmates of the provincial asylum of Mombello. He discusses many of these cases in detail and gives tables of the temperature recorded in each at various stages of the attack. He concludes that the insane are affected by any *materies morbi* which has gained admission to the system, much as they would be if sane. The onset and course of the disease are subordinated to the same general laws, and there is found in all cases the same febrile reaction. He believes the cases he quotes are sufficient to show that small-pox exercises an undoubted influence on the psychic condition of the patient, but whether this depends on a specific action of the disease or merely on the general perturbation it causes to the whole organism, and therefore to the mental faculties as a part of it, is impossible to say. LITTON FORBES.

11. *Schrötter on Laryngoscopy and Rhinoscopy in Children*.—Professor Schrötter (*Monatsschrift für Ohrenheilkunde*, Nov. 1879) strongly recommends the use of the laryngoscope and rhinoscope in children, and is of opinion that by this means our views on many points would be altered, e.g., in regard to diphtheria. A week rarely passes, he says, in which he has not an opportunity of ascertaining that a case is not one of this much-dreaded disease, but only one of simple angina, with more or less secretion on the tonsils. The statistics on this subject at present are therefore, he thinks, quite unreliable. In children, as a rule, the epiglottis is compressed laterally, and stands less erect than in the adult. The latter difficulty is best overcome by bending the little patient's head strongly backwards, and by sitting high or standing in front of him. By this means, children from two to three years old can, as a rule, be easily examined with the laryngoscope, not only in hospital, but also in private practice. The youngest patient the author has examined was six months old, in whom he was able, by means of the laryngoscope, to exclude the presence of croup. He also mentions a child from whom he removed, when it was only 3½ years old, a papillary growth which, although pronounced to be epitheliomatous in character, has not recurred (eight years after); also a boy 3½ years old, from whose larynx the author removed a bone, *per vias naturales*; and another, 10 years old, from whose larynx an epithelial carcinoma was removed in a similar manner. E. CRESSWELL BABER, M.B.

THERAPEUTICS AND PHARMACOLOGY.

1. DUFRESNE.—On Gastric and Duodenal Digestion: Action of Pancreatine.

2. DUMONT-PALLIER.—On the Induction of Local Therapeutic Analgesia by Irritation of the Corresponding Region of the opposite side of the Body. (*Bulletin Général de Thérapeutique*, Dec. 15, 1879.)

3. BROWNE, B. B.—Jaborandi and Pilocarpin in Eclampsia. (*Maryland Med. Journ.*, Dec. 1879.)

4. HALDEMAN, J. S., and DAVIS, J. T.—Veratrum Viride on Morphia-Poisoning. (*Cincinnati Lancet and Clinic*, Dec. 6, 1879.)

5. REICHERT, E. S.—On the Physiological Action of Hydrochlorate of Apomorphia. (*Philadelphia Med. Times*, Jan. 3, 1880.)

6. NOVELLO, ALPAGO.—On Tayuya. (*Centralblatt für Chirurgie*, No. 48, 1879.)

7. FÜRBRINGER.—The Subcutaneous Injection of Metallic Mercury. (*Archiv für Klin. Medicin.*)

8. RECLAM.—On Tar as a Medicinal Agent. (*Berliner Klinische Wochenschrift.*)

9. MASING, E.—On the Cure of Neuralgia by Nerve-stretching. (*St. Petersburg Med. Wochenschrift*, Dec. 20, 1879.)

10. LINDEMANN.—Odourless Iodoform. (*Allgemeine Medicin. Central-Zeitung*, 1879, No. 74.)

11. ALVIN.—Uses of Thymol and Thymate of Soda. (*New Remedies*; and *Pharmaceutical Journal*, Dec. 12.)

12. TESTI, ALBERICO.—Treatment of Intestinal Occlusion. (*Raccogliore Medico*, Vol. xii.)

13. MARIANO.—Successful Treatment of Intestinal Obstruction by Injection of Water. (*Ibid.*)

14. SENATOR.—Benzoic Acid in Polyarthritis Rheumatica. (*Zeitschrift für Klinische Medicin*, Band i.)

1. *Dufresne on Gastric and Duodenal Digestion: Action of Pancreatine.*—M. Th. Dufresne, in his memoir on this subject, arrives at the following conclusions. Hydrochloric acid, in the gastric juice, is combined with an organic base, which moderates its action and changes its properties; it is therefore necessary, in studying the peptic and pancreatic digestions, to use a solution of hydrochlorate of leucine prepared with the gastric mucous membrane. Under this influence, the peptic digestion is comparable to that which goes on in the stomach; it is no longer without limit; it can be filtered, and the residue can be estimated. The acidity of the mixed gastric juice after an hour's ingestion is no longer due to the hydrochlorate of leucine, but to the malic, tartaric, saccholactic, lactic, and other acids, and the best reagent for this transformation is pancreatine; which, after having remained two hours in the pure gastric juice, does not sensibly affect anyline after saturation of the medium, whilst it saccharifies seven times its weight in the mixed gastric juice after neutralisation. This difference in the acidity of the pure gastric and the mixed gastric juice is rendered still more manifest by artificial digestion of nitrogenised aliments; if the albumen have been previously washed in water acidulated with hydrochloric acid, the pancreatine, after neutralisation of the medium, peptonises only 5 grammes of albumen, but if the albumen be placed directly in water an artificial chyme is generated, and the pancreatine after neutralisation peptonises 38 grammes of albumen. Pancreatine, therefore, does not undergo any change in the chyme medium, recovers all its activity in the duodenum, and 1 gramme of this substance digests simultaneously 38 grammes of albumen, 7.5 grammes of starch, and 11 grammes of fat.

2. *Dumontpallier on the Induction of Local Therapeutic Analgesia by Irritation of the Corresponding Region of the other Side of the Body.*—M. Dumontpallier read at a recent meeting of the Académie de Médecine a note, of which the following are the conclusions (*Bulletin Général de Thérapeutique*, Dec. 15). 1. Every medicinal subcutaneous injection is a complex operation, in which it is useful to distinguish the function of the drug and the part played by local irritation. 2. Local irritation is transmitted from the periphery to the sensory centres, and undergoes in these centres a modification of which the consequence is the cessation or diminution of the peripheral pain.

3. The real anatomical seat of certain peripheral pain would then be in the sensory centres. This assertion appears to be demonstrated clearly by the crossed action of the induced peripheral irritation.

4. Irritation induced *loco dolente*, or in the vicinity of the painful spot, calms or removes the pain. Likewise, when irritation is made at symmetrical points on the side of the body opposite to the seat of pain, this irritation is frequently sufficient to procure complete and permanent cessation of pain.

3. *Browne on Jaborandi and Pilocarpin in Eclampsia.*—Dr. B. Browne (*Maryland Med. Jour.*, Dec. 1879) reports a case of puerperal eclampsia which fell under his notice and was treated with jaborandi, at first with success, but on the recurrence of the symptoms, a month later, premature delivery had to be resorted to. Dr. Browne also reports five cases in which pilocarpin was given hypodermically for non-puerperal eclampsia, in which it seems to control the tendency to spasm. He accounts for its good effect in aborting fever and ague, by considering that the chill is but another form of spasm premonitory to the fever. Jaborandi or its active principle, pilocarpin, controls the spasms by relaxing the whole vascular system, and aborts the fever. The paroxysm is said not to return.

4. *Haldeman on Veratrum Viride as an Antidote in Morphia Poisoning.*—Dr. J. S. Haldeman (*Cincinnati Lancet and Clinic*, Dec. 6, 1879) reports that he was called to see an infant three weeks old, which he found in a profoundly hypnotic condition, occasioned by an overdose of laudanum. The child had been in that condition for six hours before his arrival. He immediately prescribed 20 minims of tincture of veratrum viride in 3 ounces of water, and continued a teaspoonful every hour until the stupor should disappear. The narcotism disappeared after the third dose. This case is presented in corroboration of an article published in the *Lancet and Clinic*, Aug. 23, 1879. The dose given to the child as stated above is about $\frac{1}{2}$ ths of a drop greater than should ordinarily be given, but the case seemed to demand a heroic dose. In the same article, Mr. T. J. Davis reports through Dr. Haldeman a similar case of opium narcotism in an adult treated with veratrum viride. This case was one of extreme narcotism, the patient being incapable of being aroused; pulse 85 per minute, and respiration $3\frac{1}{2}$ per minute. Six drops of the tincture of veratrum were administered hypodermically, having the effect of so modifying the symptoms as to enable the attendants to arouse the patient in half an hour.

5. *Reichert on the Physiological Action of Hydrochlorate of Apomorphia.*—Dr. E. T. Reichert (*Phil. Med. Times*, Jan. 3, 1880), from an extended experimental study of this drug, arrives at the following conclusions. 1. When locally applied, it is a depressant to all the highly organised tissues of the body. 2. Upon the cerebrum, it is primarily a stimulant and secondarily a depressant. 3. The sensory nerves are paralysed, the paralysis being progressive from the periphery to the centre. 4. The motor nerves are primarily stimulated, secondarily paralysed. 5. The loss of voluntary motion is due to narcotism. 6. The loss of reflex activity is due to a paralysis of the sensory nerves, and a stimulation of the inhibitory reflex centres of the spinal cord. 7. The convulsions are principally spinal, and are due to a paralysis of the inhibitory reflex centres of the spinal cord. 8. The motor conducting tracts are paralysed before the motor nerves succumb. 9. The hyperæsthetic condition, which is sometimes observed to exist after total abo-

lition of reflex activity, is due to a depression of the inhibitory reflex centre of the cord. 10. The increase of the pulse-rate is due to a stimulation of the accelerator fibres of the vagus, and the decrease to a depression of the heart-muscle. 11. The increase of respiration in dogs and cats is due to a stimulation of the peripheral vagi nerves, and in rabbits to a combined stimulation of the vagi centres. 12. The primary and secondary fall of blood-pressure is due to a direct depressant action on the heart, and the temporary rise to a stimulation of the vaso-motor centres in the medulla. 13. The temperature is primarily increased, secondarily diminished. 14. Both the voluntary and the involuntary muscular systems are depressed, and finally paralysed. 15. It is a cardiac depressant. 16. The secretion of the salivary glands is markedly increased. 17. The emesis is due to a stimulation of the vomiting centres in the medulla oblongata, and the drug acts primarily as a stimulant and secondarily as a depressant to those centres. 18. Absorption takes place very rapidly through all parts of the body. 19. It is probably eliminated by all the secretions, and the elimination takes place rapidly. 20. The most characteristic test is the solution of gold chloride, which gives a purple precipitate, which may be distinguished from the reaction with a tin salt by the precipitate changing to a brown when it is boiled. 21. The dilatation of the pupil is due to a paralysis of the motoroculi centres. 22. Lastly, there are no characteristic lesions found after death.

6. *Novello on Tayuya*.—Recent investigations add weight to the estimation of the value of this drug in scrofula and syphilis. Various writers cited in the (*Centralblatt für Chirurgie* No. 48, 1879) give notes of fifteen cases of syphilis and one of ulceration of the lip of uncertain origin cured by tayuya within a month. Alpagu Novello gives the case of a girl, aged 9, suffering with scrofulous ulcers and submaxillary lymphatic engorgement, lymphoma of the neck, etc., who was much improved by the use of the tincture. Of two other similar cases, one was almost or entirely cured, the other much improved.

7. *Fürbringer on the Subcutaneous Injection of Metallic Mercury*.—Professor Fürbringer of Jena (*Archiv für Klin. Med.*) has made a large number of hypodermic injections of metallic mercury, and states that at the time of injection they are well borne, but within twenty-four hours inflammatory symptoms set in, and frequently result in abscess. If it be simply injected and not divided by subsequent rubbing, no mercury can be found in the urine, but it has been obtained in a reguline state under the skin at the end of a year and a half. However administered, a slow improvement of the syphilitic symptoms takes place. Metallic mercury is best borne when injected in an emulsion of mercury two parts, mucilage of acacia and glycerine each ten parts. One or two injections per week should be made. Fürbringer believes that this plan of treating syphilis by mercurial emulsion injections should be reserved for cases in which inunctions and internal treatment fail or in which it is not advisable to make frequent injections.

8. *Reclam on Tar as a Medicinal Agent*.—In the *Berliner Klinische Wochenschrift*, Professor Reclam reports some of his personal experience with this agent. He does not consider tar-water at all efficient, and always administers it in pills or capsules. One constant and curious effect he noticed was that the urine of a patient taking tar does not decompose for

five or six days, instead of doing so in twenty-four hours as usual. The general indication for tar is a chronic catarrhal inflammation of the mucous passages of the respiratory or urinary tract, as bronchitis, vesical catarrh, gleet, etc.

9. *Masing on the Cure of Neuralgia by Nerve-Stretching*.—In the *St. Petersburger Med. Wochenschrift*, December 20th, 1879, Dr. E. Masing reports a case of supra-orbital neuralgia of over three years' standing, which had obstinately persisted notwithstanding various plans of treatment. Although there was tenderness at the point of emergence of the supra-orbital, the most intense neuralgia was in the track of the naso-ciliaris, the infratrochlear, and the ethmoidal nerves. These nerves being out of reach, he determined to attempt to act on them by a thorough stretching of the supra-orbital. This he effected by a free opening of the orbital cellular tissue, exposing the nerve in its entire length along the roof of the orbit. Near the orbital fissure he surrounded it with a blunt hook and so stretched it (inwardly) that its adhesions to the bony roof were broken up. Ten days after the operation the upper eyelid was freely movable. There was complete anaesthesia of the forehead on that side as well as of the cornea. The neuralgic pains gradually lessened in severity, but did not entirely cease for several months. The anaesthesia continued for nearly six months.

10. *Odourless Iodoform*.—No satisfactory method of disguising the penetrating odour of iodoform has yet been proposed. The following formula, however, it is asserted by Dr. Lindemann (*Allgemeine Medicin. Central-Zeitung*, 1879, No. 74) does away with the smell entirely. R. Iodoformi, gr. xvi; bals. Peruviani, gr. xxx; vaselini, adipis, ung. glycerini, aa 5ij.—M. If desired in a fluid form, the following formula may be employed. R. Iodoformi, gr. xvi; bals. Peruviani, ʒiiss; alcoholis, glycerini, colloidii, aa 3iij.—M.

11. *Uses of Thymol and Thymate of Sodium*.—Dr. Alvin (*New Remedies*, quoted in the *Pharmaceutical Journal*, Dec. 12) gives the following formula for using thymol in place of carbolic acid in caustic, alterative, or astringent applications to the mucous membrane of the throat. He has found these preparations much better tolerated, more agreeable, and quite as active as those of carbolic acid.

Caustic. R Thymol Crystals, 1 part; Pure Glycerine, 2 to 4 parts; or, R Thymol Crystals, Iodine, Iodide of Potassium, each 1 part; Pure Glycerine, 5 to 15 parts.

Alterative. R Thymol Crystals, 1 part; Pure Glycerine, 50 parts. R Thymol Crystals, Iodine, of each 1 part; Iodide of Potassium, 1 or 2 parts; Pure Glycerine, 12 parts. R Thymol Crystals, Tannin, of each 1 part; Pure Glycerine, 100 parts.

Astringent. R Thymol Crystals, 1 part; Pure Glycerine, 500 parts.

Pastils. These are useful in superficial stomatitis, irritation of the upper air-passages, and erosion of the mucous membrane in smokers, and they are very useful in quieting spasmodic cough. They should be made trial of in whooping-cough. R Thymate of Sodium, 1 milligr. (gr. $\frac{1}{100}$); Chlorate of Potassium, 10 centigr. (gr. $\frac{1}{4}$). In severer forms of stomatitis, amygdalitis, pharyngolaryngitis: R Thymate of Sodium, 1 milligr. (gr. $\frac{1}{100}$); Borax, 10 centigr. (gr. $\frac{1}{4}$). These pastils may be taken to the number of six to ten daily.

Thymol-Vaseline Ointment is made by dissolving

20 grains of thymol in an ounce of vaseline. It is useful in eczema and as a parasiticide.

In Glycerole of Thymol, the formula is: thymol, 20 grains; glycerin, rectified spirit, of each an ounce; distilled water to 16 ounces. It is useful in pityriasis and, when diluted, as an effective antiseptic mouth-wash.

It is said that thymol has the property of immediately removing the smell of tobacco.

12. *Testi on the Treatment of Intestinal Occlusion*.—Under this heading, Dr. Alberico Testi gives (*Raccoglitori Medico*, vol. xii) details of two cases of obstruction successfully treated by enteroclysm, which consists essentially in the use of enemata administered through a tube three metres in length, the fluid being propelled by hydrostatic pressure obtained from a vessel placed on a higher level than the patient (see LONDON MEDICAL RECORD, Nov. 15, 1879, p. 439). The first case was one of impaction of feces due to paralysis. After other means had failed, large injections of olive-oil proved successful, and the patient, a woman sixty years of age, left the hospital cured in four days. The second case occurred in a man aged seventy, and was, in the author's opinion, due to enteritis, with subsequent permanent lessening of the calibre of the large intestine. In this case, an enema of two litres of oil was administered, and was followed within two hours by a very copious evacuation. Later on, a circumrectal abscess became developed. The author holds that this mode of treatment is likely to prove useful chiefly in cases depending on the presence of masses of indurated feces, especially if the retention is due to a narrowing of the intestinal canal at any particular point. He also considers that it may prove useful in cases of invagination of the large intestine. It is contraindicated wherever there is reason to suppose that the tonicity of the intestine is lowered either from ulceration or excessive meteorism.

13. *Mariano on the Successful Treatment of Intestinal Obstruction by Injection of Water*.—The author, after some general considerations, proceeds to give details of three cases of intestinal obstruction successfully treated by injections of water. The first case occurred in a woman aged 25, in whom symptoms of obstruction had followed upon an attack of peritonitis. Six litres of fluid were injected and retained. The second case was one of intussusception. The third apparently depended on some twisting of the intestine high up. In this case treatment was persevered in for five days, with eventually a successful result.

LITTON FORBES.

14. *Senator on Benzoic Acid in Acute Articular Rheumatism*.—Dr. Senator (*Zeitschrift für Klinische Medicin*, Band i.) has given benzoic acid in forty-six cases of rheumatic polyarthritis. Small doses were given at first, in order to guard against irritant effects; and, finally, 10 to 12 grammes (150 to 180 grains) of the acid, or 12 to 15 grammes or more of benzoate of soda, were given daily: the acid itself in the form of powder, boluses, or capsules; the salt in a solution of 10 to 15 per cent. in aromatised water, with or without sugar. The results of the observations may be summed up by saying, that benzoic acid is a remedy of high value in acute articular rheumatism, though inferior to salicylic acid. Of twenty-two cases of acute articular rheumatism, twenty-one were cured within a period varying from two to seven days; in one case, where the disease was of longer duration, the time required was eleven days. The action of salicylic acid is more decided than that of benzoic acid, which is gradual. Several cases in

which salicylic acid had been given without effect or in which it could not be tolerated, recovered under the use of benzoic acid. One point in favour of benzoic acid was the fact, that in none of the cases treated were there any symptoms of irritation of the stomach, intestines, or other organs. In the cases treated by it there were no relapses, nor cardiac or other complications. Further experience, however, is required in order to determine whether benzoic acid, in spite of the comparative slowness and uncertainty of its action—for it failed in several cases—is to be preferred to salicylic acid on the ground of the permanency of the cure and the absence of complications. The use of benzoic acid appears to be indicated in cases where salicylic acid or its soda-salt either cannot be borne or fails to produce any effect.

ELECTRO-THERAPEUTICS.

RECENT PAPERS.

1. VULPIAN.—On the Influence of Cutaneous Faradisation of a limited portion of the Skin, in Cases of Anæsthesia due to Cerebral Lesions, Lead-poisoning, Hysteria, and Zona. (*Bulletin de Thérapeutique*, December 1879.)
2. LOLOIR.—On Electric Currents in Hysteria. (*Gaz. des Hôpitaux*, 1879, p. 84.)
3. ROSENTHAL.—A Case of Syphiloma of the Pons Varolii. (*Archiv für Psychiatrie*, Band ix.)
4. ROSENTHAL.—Researches and Observations on Hysteria. (*Wiener Medizin. Presse*, No. 18, 1879.)
5. KAHLER and PICK.—On the Changes of the Electric Excitability in Subacute Anterior Poliomyelitis. (*Vierteljahrsschrift für die Prakt. Heilk.*, Band xxxvi.)
6. BERGER.—On the Electrical Current of Convulsive Tic and Chorea Minor. (*Archiv der Nervenheilkunde*, 1879, No. 10.)
7. ERLÉNMEYER.—The Action of Static Electricity in a Case of Hysterical Paralysis. (*Centralblatt für Nervenheilkunde*, Nos. 7 and 14, 1879.)
8. BÄUMLER.—On the Influence of the Faradic Current on the Contractions of the Bladder and Stomach. (*Archiv für Nervenheilkunde*, No. 20.)
9. BASTINGS.—Cure of a Severe Case of Phthisis in a Child by Methodical Electrification of the Muscles of Respiration. (*Journal de Médecine*, Feb. and March 1879.)
10. GIBNEY.—Galvanism in the Treatment of Sciatica. (*American Practitioner*, March 1879.)
11. CHÉRON.—On Fibrous Tumours of the Uterus and their Treatment by the Continuous Current. (*Gazette des Hôpitaux*, 1879, p. 226.)
12. ONIMUS.—Peculiarities of Electro-muscular Contraction, and the Mode of Action of Curare. (*L'Union Médicale*, 1879, p. 937.)
13. DROSDOFF.—Researches on the Electrical Excitability of the Skin. (*Archiv für Psychiatrie*, Band ix.)
14. REMAK.—On the Localisation of Atrophic Spinal Paralysis. (*Archiv für Psychiatrie*, Band ix; and *Brain*, Jan. 1880.)
15. FISCHER.—On the Influence of the Galvanic Current on Hallucinations of Hearing. (*Archiv für Psychiatrie*, Band ix.)
16. ERB, Dr. W.—Cases of Bulbar Paralysis. (*Ibid.*, Band ix.)
17. BERNHARDT.—Stiffness and Hypertrophy of Muscle. (*Virchow's Archiv*, 1879.)
18. TISON.—Case of Athetosis of the Lower Limbs cured by the Constant Current. (*Gazette des Hôpitaux*, 1879, p. 938.)
19. GNAUCK.—On Primary Athetosis. (*Archiv für Psychiatrie*, Band ix.)
20. ERB and SCHULTZE.—A Case of Progressive Muscular Atrophy. (*Ibid.*)

21. HOEDEMAEKER.—On Erb's Combined Paralysis of the Upper Extremity. (*Ibid.*)
22. FREUSBERG.—On the Irritability of Paralysed Muscles. (*Ibid.*, Band ix, pp. 244, 434, and 469.)
23. GIOVANNINI.—Electricity in Eczema. (*Annali Universali di Medicina Chirurgia*, 1879, Band i.)
24. ULTZMANN.—Neurosis of the Genito-Urinary Organs. (Reprint from *Wiener Klinik*, 1879.)
25. BOCHFONTAINE.—Diffusion of Electric Currents in the Organism. (*Société de Biologie*, March 1879.)
26. POUCHET.—History of Electric Sensibility. (*Ibid.*, April 1879.)
27. ARMAINGAUD.—Scleroderma cured by the Continuous Current. (Paris, 1879.)
28. GLOTZ.—A Case of Tic Douloureux greatly improved by Electrification of the Sympathetic Nerve. (*Bulletin de la Société Méd. de la Suisse Romande*, tome xiii, 1879.)
29. WEISE.—Cure of a Case of Neuralgia of the Trigeminal Nerve by the Constant Galvanic Current. (*Berliner Klinische Wochenschrift*, 1879, p. 640.)
30. BEARD.—The Dosage of Electricity. (*Chicago Journal of Nervous and Mental Diseases*, 1879, p. 715.)
31. NEFFEL.—Electricity a Paralyzing Agent. (*New York Medical Record*, 1879, p. 476.)
32. WILHELM.—Two Cases of Basedow's Disease. (*Pester Med.-Chir. Presse*, 1879, No. 23.)
33. SCHWIMMER.—A Case of Universal Scleroderma. (*Ibid.*)
34. DIEULAFOY.—Paralysis of the Radial Nerve. (*Gaz. Hebdomadaire*, 1879, No. 23.)
35. ROCKWELL.—Two important points in Electro-Therapeutics. (*Boston Med. Journ.*, 1879, p. 265.)
36. ROCKWELL.—Lectures on Electro-Therapeutics. (*Virginia Med. and Surg. Monthly*.)
37. TIBBITS, H.—How to use a Galvanic Battery. Three lectures. (London, 1879.)
38. DELAFIELD.—Elementary Lessons in Electricity. (*New York Archives of Medicine*, 1879.)
39. LANGLEY.—On Electro-Therapeutics. (*Physician's and Surgeon's Ann. Arbor.*, 1879, p. 205.)
40. GARRATT.—Electricity in Gynecology. (*South Clinic*, Richmond, 1879, p. 121.)
41. PALMER.—Obstetrical and Gynecological uses of Electricity. (*Cincinnati Obstetrical Gazette*, 1879, p. 481.)
42. VIZIOLI.—Practical Electro-Therapeutics. (*Il Morgagni*, 1879.)
43. D'ANCONA.—The Comparative Value of the Induced and Galvanic Currents. (*Gazzetta Medica Italiana*, 1879, Band xxii.)
44. SIEFFERMANN.—The Electric Douche. (*Gazette Med. de Strasbourg*, 1879.)
45. TRIPIER and GAFFE.—*Electrologie Médicale*. (Paris, 1879.)
46. BALFOUR.—Electricity in Medicine. (*Edinburgh Med. Jour.*, Dec. 1879.)
47. BENNETT.—On Electro-Diagnosis. (*Brit. Med. Jour.*, Dec. 1879.)
48. HESSE.—On an Absolute Electrical System of Measurement. (*Centralblatt für Nervenheilkunde*, 1879, No. 23.)
49. MÜLLER.—On Acute Atrophic Spinal Paralysis in Adults. (Stuttgart, 1880.)
50. BIEDERMANN.—On the Polar Action of the Electric Current on Muscle deprived of its Nerves. (*Sitzungsberichte der Kais. Akad. der Wissenschaften*, Band lxxix.)
51. HERING.—On the Methods of Research on the Polar Action of the Electric Current on Striated Muscle. (*Ibid.*)
52. TSCHIRIEW AND DE WATTEVILLE.—On the Electrical Excitability of the Skin. (*Brain*, July 1879.)
53. BUZZARD.—Hysterical Hemianæsthesia in the Left Side; Defective Electrical Excitability of the Right Cerebral Hemispheres. (*Lancet*, vol. ii, p. 685.)

1. *Vulpian on the Influence of Cutaneous Faradisation on a limited spot of the Integument in Cases*

of Anæsthesia due to Cerebral Lesions, Lead-poisoning, Hysteria, and Zona.—M. Vulpian (*Bulletin de Thérapeutique*, December 1879) relates the following cases.

CASE I. A male, aged 18, of scrofulous diathesis, suffered from monoplegia of the right arm and complete anæsthesia of the same, probably due to a cerebral hemorrhage. Moist faradisation of the arm failed to do any good. Continuous galvanisation with weak currents, during twelve hours daily, produced a slight return of function. The effect of cutaneous faradisation localised over a surface of five square centimètres of the arm was very rapid. Sensation began to spread from the shoulder downwards, as well as motility, though the latter did not follow quite so regular a course in its restoration. In a couple of months the patient was quite well. M. Vulpian thinks that there must have been here a substitution of a healthy path for the diseased one.

CASE II. A workman, aged 45, had had notably a hemorrhage into the right cerebral peduncle. The symptoms were, left hemiparesis and hemianæsthesia, including the senses of hearing and vision, persistent pain in the left side of the thorax, and tremors of the paralysed muscles. Localised cutaneous faradisation restored all the functions in about ten weeks. Their return did not follow the same regular order as in the last case. CASE III. A man, aged 62, after an apoplectic fit, had complete anæsthesia and incomplete paralysis of the right side. The special senses were not affected. The first application of electricity (cutaneous faradisation of a small surface of the forearm) awoke a distinct return of sensation over the whole side. After a few weeks' treatment he left the hospital considerably improved. CASE IV. A worker in lead was seized, in December 1878, with weakness of the forearms, to which succeeded pains in the joints, 'electrical' shocks in the limbs and other symptoms. In May 1879, he was admitted under Professor Vulpian, and was then suffering from right anæsthesia, involving the special senses. Cutaneous faradisation had rapid results, and before the end of the month he left hospital nearly well. CASE V. In another more severe case of saturnine hemianæsthesia, where probably the central lesions were more profound, it was only after four months' treatment that traces of sensibility began to reappear after each application. Eventually the anæsthesia completely disappeared. CASE VI. In a hysterical girl, aged 19, the anæsthesia involved the whole of the body, except the face and organs of special sense. Muscular sense was not lost. Localised cutaneous faradisation was applied, every other day for four weeks, on the right forearm without apparent effect. One day, however, during the treatment, sensation returned at the point acted upon, and over a large portion of the right side. After a few days, during which partial relapses took place in consequence of hysterical fits, sensation on the right was perfect, whilst the left side was still profoundly anæsthetic. The left arm was now acted upon, with rapid success. The whole of the left side recovered sensation, but complications supervened (metrorrhagia, fits, etc.) which caused a slight relapse on the left side. Unfortunately, the patient had to be discharged from hospital at this point, after twelve weeks' treatment. CASE VII. A man, aged 61, after a fall on the right side, suffered from general febrile symptoms, and a crop of herpes appeared on the thorax; on that side severe pain with local anæsthesia persisted for several months after the healing of the eruption, notwithstanding all treatment. At last cutaneous faradisation was tried, and on the third

application some impression was perceived by patient. Further faradisation removed the anæsthesia to a great extent, but had no effect in the relief of the acute pains. Professor Vulpian does not think that faradisation of a large surface is so beneficial as that of a small, and always the same area. It acts by a centripetal influence on the brain. It not only removes anæsthesia, but assists notably the natural process of cure in ordinary hemiplegia. He observes, what is generally true in electro-therapeutics, that unless the physician himself performs the operation, failure often follows. This he has remarked when he left the treatment in the hands even of medical students.

2. *Leloir on Electric Currents in Hysteria.*—M. Leloir (*Gazette des Hôpitaux*, 1879, page 84) relates the following three cases from the practice of Professor Vulpian. CASE I. A female, aged 13½, had right hemianæsthesia and analgesia with implication of the special senses. Five minutes' faradisation dissipated the symptoms. The application was localised to a surface of five square centimètres on the forearm. CASE II. In a married woman, aged 30, repeated faradisation restored sensation at various points, removed ovarian hyperæsthesia, but left special sensation unimproved. CASE III. A female, aged 32, had contracture of the left arm and hand. Continuous currents, applied for ten hours daily, removed the contracture in twelve days. Two localised faradisations removed the anæsthesia in the affected parts.

3. *Rosenthal on a Case of Syphiloma of the Pons Varolii.*—Dr. Rosenthal describes (*Archiv für Psych.*, Band ix) the result of experiments on the galvanic excitability of the sense of taste, made on a patient with syphiloma of the pons Varolii, who presented symptoms of left hemiplegia and hemianæsthesia. He found it considerably impaired, but, he observed, which proved more interesting, that the current applied to the left hemisphere, even if very strong, produced but faint cerebral reactions. This led him to investigate the condition of things with reference to this point in hysterical hemianæsthesia. His results form the subject of another communication.

4. *Rosenthal on Hysteria.*—Dr. Rosenthal (*Wiener Medicin. Presse*, No. 48, 1879) says that, in a case of complete left hemianæsthesia with hemiplegia, the galvanic exploration of the brain showed that whilst a current of 18 Daniell's produced powerful sensations of giddiness, flashes of light, singing in the ears, and galvanic taste, when passed through the right hemisphere, none could be elicited by a current of 40 through the left. After ten months' treatment, during which the symptoms gradually gave way, the left hemisphere, on being tested galvanically, was found to react to twenty cells. The galvanic taste, that could not be elicited by powerful currents to the tongue itself, still remained in abeyance. In a second case a woman, aged 25, after a mental shock lost both sensation and motion on the left side. The anæsthesia was absolute, and extended over the special senses. The galvanic excitability of the left side of the brain and tongue was lost, that of the left eye was lost with regard to coloured spectra, forty cells producing but a faint flash of light. Three months after, the anæsthesia spread over the right side as well, following a centrifugal course. The right brain became unexcitable to the galvanic current; and the arm, then the leg, became paralysed and anæsthetic. This alarming state of things lasted several days, when symptoms of excitement, headache, etc., supervened, among which the electrical tests showed

a return of reaction in the brain, skin, and organs of sense on the left side. Voluntary motion also gradually returned. Gradually the right side recovered also, and by the end of twelve months' treatment the patient could be discharged. In a third case there was complete right hemianæsthesia. The right hemisphere was unexcitable to the current, and thirty-five elements produced in the eye nothing but a semicircular appearance of light on the outer side. Metals and magnets applied to the diseased side had no effect, but a magnet applied to the left side of the neck produced sleepiness and heaviness in the left arm, and an electrical investigation made a quarter of an hour afterwards showed that there was a transfer of the unexcitability of the brain and organs of special sense. This lasted for ten minutes after the removal of the magnet. Various tests were applied, but never did the result follow unless magnetised iron was applied. That the unexcitability of the brain in these cases was not secondary to the anæsthesia of the face, is shown by the fact that the current began to produce cerebral effects before the recovery of trigeminal sensibility had occurred. The electrical treatment of severe hysterical anæsthesia must include galvanisation of the affected hemisphere, including voltaic alternatives. Galvanisation of the cord and large nerves, and faradisation of the skin must at the same time be resorted to.

5. *Kahler and Pick on the Electrical Irritability in Subacute Anterior Poliomyelitis.*—The authors (*Vierteljahrsschrift für der Prakt. Heilkunde*, Band xxxvi) give several cases in which the electrical reactions were carefully observed, and found to agree with the classical description of Erb. The history of one patient is given at full length, with the results of repeated testing of his nerves and muscles. These were found to be affected throughout the four extremities, and some important conclusions are enforced by the authors. The several groups of muscles progressively passed through a cycle of change in their electrical reactions, which had no relation whatever to the degree of paralysis observed in them. On the other hand, atrophic changes kept pace with alterations in electro-contraction. Eventually, farado-irritability disappeared from every nerve of the body from the neck downwards.

6. *Berger on the Electrical Treatment of Convulsive Tic and Chorea Minor.*—With reference to facial spasm, the author (*Archiv der Nervenheilk.*, 1879, No. 10) observes that hitherto electro-therapeutics has but little success to boast of. This fact led him to consider the methods generally employed, which are confined to the *locus symptomatis*, and to try the effects of the current *in loco morbi*—that is, applied to the cortical centre itself. Even in very numerous cases which had proved refractory to the usual method, he has met with such success as to recommend this mode of application. He places the positive pole, after separating and moistening the hair, over the seat of the cortical centre, the negative in the opposite hand (or on the spine), and allows a moderate stable current to pass for five or ten minutes. If both sides of the body be affected, of course the application must be bilateral. The same success has attended this treatment in chorea; and in one case of partial epilepsy, depending probably upon a cortical lesion, at least a temporary relief has been obtained.

7. *Erlenmeyer on the Action of Static Electricity in a Case of Hysterical Paralysis.*—The author relates (*Centralblatt für Nervenheilkunde*, Jan. and July 1879) the case of a hysterical patient who for two

years had lost sensation and motion in the left leg. Every conceivable treatment had been tried, including central and peripheral galvanisation and faradisation, but without the slightest result. Franklinisation was resorted to in the shape of shocks from a Leyden jar. The effects were speedy and curious. First, perspiration reappeared at the sole of the foot (the patient had not perspired since she had been ill). Then, after the ninth sitting, slight voluntary movements of the little toe were noticed. These became more extensive in time, but never lasted for more than an hour after the application, when passive movements would restore them again in a slight degree. The various forms of sensation also partially returned—permanently, as did sweating. The author considers the behaviour of the motor system in this case as a sort of 'reaction of fatigue or degeneration,' which is manifested only by static electricity. Otherwise, he expresses scepticism as to the efficient cause in the restoration of functions in such cases, and holds it to be primarily a psychical influence on the part of the patient.

8. *Bäumler on the Influence of the Faradic Current on the Contractions of the Bladder and Stomach.*—At the last meeting of the Association of German Naturalists and Physicians (*Archiv für Nervenheilk.*, No. 20) Dr. Bäumler said that faradisation of the stomach and bladder of the living subject, previously filled with water, did not produce any evacuation of the organs. Professor Ziemssen stated that different portions of the dog's stomach reacted differently to galvanism and to faradism (Onimus had come to similar conclusions with regard to different parts of the intestine in man). Professor Kussmaul strongly recommends faradisation, external or internal, for nervous dyspepsia, but attributes the result to the stimulation of the abdominal muscles and visceral nerves, not to the contractions of the unstriated fibres.

9. *Bastings on Cure of a Case of Phthisis by Electrification of the Respiratory Muscles.*—The author (*Journal de Médecine*, Feb. and March 1879) has for many years studied the effects of faradisation of the chest in diseases of malnutrition, and entertains a very high opinion of its value. He describes a case of well-marked pulmonary phthisis, with caverns, and gives a number of other instances in which the disease was arrested by this treatment. He also adduces many cases of anæmia, scrofula, etc., where the very rapid results show the value of electricity as a promoter of general nutrition. The author's theory is, that by stimulation of the chest, muscles, sanguification is powerfully stimulated. The testimony of many observers to the value of 'general faradisation' gives support to Dr. Bastings' conclusions, and makes the process worthy of trial.

11. *Chéron on Fibroid Tumours of the Uterus, and their Treatment by Continuous Currents.*—This paper (*Gaz. des Hôpitaux*, 1879, p. 226) is the result of twelve years' observation of forty-two cases of uterine fibroids. The galvanic current applied continuously, one pole to the uterus, the other externally, gave no results even after one hundred or more applications. The induced current was found difficult to bear when applied with sufficient strength. The author then resorted to the interrupted galvanic current, placing one pole (positive) on the cervix, the other on the abdomen, and interrupting the current every second. [No clear directions as to the length and strength of the applications are given.] The results were most favourable, and were probably due to the stimulating and catalytic influences of the

current. Several cases are described, in which the hæmorrhage disappeared, the tumour diminished in size, and the general health improved. The author does not, however, allege that he obliterated the tumour entirely.

12. *Onimus on the Peculiarities of Electro-Muscular Contraction, and on the Mode of Action of Curare.*—In a paper read before the Academy of Medicine (*l'Union Médicale*, 1879, p. 937), the author, arguing from the fact that muscular substance (deprived of nervous influence) does not react to faradisation, and that curarised muscle does not lose its faradic contractility, concludes that curare affects not the nerve-endings but the nervous trunks.

13. *Drosdoff on the Electrical Excitability of the Skin.*—The author of this paper (*Arch. für Psych.*, Band ix) tries to show that the excitability of the cutaneous nerves varies in different parts of the body, the differences of sensations produced not being accounted for by the differences in the resistances to the agent used, viz., electricity. Bernhardt (*ibid.*, p. 753), has shown that little confidence can be placed in Drosdoff's numbers, and our own results, obtained with a perfected method, are diametrically opposed to those of Drosdoff. The second part of the paper deals with the sensory disturbances in ataxia. His results are these. 1. The faradic excitability of the skin is diminished over the whole body, but not proportionately with the ataxic symptoms. 2. The relation between minimum and painful sensations is not disturbed. 3. The electrical resistances are often increased. The author's clinical conclusions will require careful examination before being accepted. Professor Erb (*On the Pathology of Tabes Dorsalis, Deutsches Archiv*, 1879) does not hold them to be proved.

14. *Remak on the Localisation of Atrophic Spinal Paralysis.*—Though not primarily dealing with electro-therapeutics, this paper (*Arch. für Psych.*, Band ix, 510, and *Brain*, January 1880) contains much to interest us in the shape of numerous well observed cases of spinal atrophy, in which the electrical reactions are fully described. He dwells upon the important fact that it is not the fact of the presence of the degenerative reaction, but the manner of its distribution among various muscles, which gives a clue to the localisation of the morbid process. He also specifies a fact which, though often observed, had never been dwelt upon as it deserves, viz., a farado-nervous reaction of degeneration. In certain conditions, the normal faradic excitation of a nerve produces a muscular contraction; but this is altered in character, and does not increase proportionately with the strength of the current.

15. *Fischer on the Influence of the Galvanic Current on Hallucinations of Hearing.*—Jolly has shown that a galvanic current of great intensity produces acoustic hallucinations among certain insane patients, but attributes this to a reflex action produced by the irritation of the sensory nerves of the fifth nerve. The author, in his experiments on this subject (*Archiv für Psych.*, Band ix), found that the current had a marked influence on the auditory hallucinations in a number of cases of which he describes a typical instance. The patient suffered from hypochondriacal melancholia, with hallucinations of all the senses. He frequently heard the voices of his relations speaking to him, and, in addition, was much troubled with subjective noises. The first applications of electricity having had a marked result, a regular treatment was entered upon, a current of eight to ten Stöhrer's elements being sent through

the head daily. At the end of two months, not only had the symptom disappeared, but the general state of the patient much improved. The current had evidently acted by stimulating the nutrition of the brain.

16. *Erb on the Clinical Study of Bulbar Paralysis.*—In a typical case of bulbar paralysis, the author (*Archiv für Psych.*, Band ix; *Brain*, Oct. 1879) found the 'middle form' of degenerative reaction fully illustrated. The nerves supplying the diseased muscles reacted normally to the faradic current; to the galvanic they responded equally well, and called forth normal muscular contraction. Intramuscular galvanisation displayed quantitative alterations—increased or diminished excitability, according to the stage of the disease in different muscles; and qualitative alterations—predominance of the anodal over the cathodal effects; the contractions were sluggish, and protracted. The tongue and hypoglossus muscle offered similar electrical phenomena. After one month's galvanic treatment the patient was *instatquo*. In a case in which to many of the typical symptoms of bulbar paralysis other phenomena were associated (paræsthesiæ of special senses, pains in head, neck, and arms, etc.) electrical treatment was highly successful. After a few days a remarkable amendment was evident, and fifty-two sittings sufficed to perform an almost complete cure. The method adopted was galvanisation of the head transversely, and of the sympathetic, with anodal application to the ears. This success alone removes the case from the group of typical bulbar paralysis. Erb describes three cases where ptosis, and paresis of the masticatory and of the posterior cervical muscles, were associated with, and predominated over, the usual bulbar symptoms of atrophy and weakness of the lips, tongue, and fauces. In the first, galvanic treatment, continued with intervals from June till December, brought about an almost complete cure. In the second, two courses of electricity were followed by temporary relief. The patient died suddenly. In the third, the treatment was not followed up, and patient lost sight of.

17. *Bernhardt on Stiffness and Hypertrophy of Muscle.*—In a curious case (*Virchow's Archiv*, 1879, p. 75) combining stiffness with hypertrophy of many muscles, the electrical reactions were (quantitatively and qualitatively) normal; but the peculiarity was observed that protracted stimulation produced an undulating contraction, whilst single shocks set up a state of protracted tonic contraction in the stimulated part.

18. *Tison on Continuous Currents in Athetosis of the Lower Limbs.*—In this case (*Gazette des Hôp.*, 1879, p. 938) the patient, aged 33, had suffered for eight years from athetotic movements in the three outer toes of the left foot. There were paræsthesiæ extending into the whole leg and even the arm, but no anæsthesia. Galvanisation, though applied in the most haphazard fashion, very soon brought about a notable improvement, and eventually an entire suspension of the symptoms.

19. *Gnauck on Primary Athetosis.*—The author describes (*Archiv für Psychiatrie*, Band ix) a case of idiopathic athetosis in a little girl, aged 13. The first symptom was a tearing pain in the right side of the face, followed by a paresis of the same region (with no change in the electrical reactions), and the typical movements of athetosis in the right hand and fingers, and the right leg, foot, and toes. There was a diminution of sensation in the affected parts. The treatment consisted in the administration of bromide of

potassium (thirty to seventy-five grains *per diem*) and in the application of the descending galvanic current to the spine and affected muscles for ten minutes every second day. In two months, nothing remained but some facial paresis, which was removed in three weeks by localised galvanisation and faradisation, and transverse galvanisation of the head. Oulmont (*Etude Clinique de l'Athetose*, Paris, 1878) and Gowers (*Medico-Chir. Trans.*, vol. 49) have reported cases in which galvanism effected an improvement. Erb (*Archiv für Psych.*, Band x) records a case of athetosis where galvanisation had no effect whatever.

20. *Erb and Schultze on a Case of Progressive Muscular Atrophy.*—This case (*Archiv für Psych.*, Band ix), is worthy of mention as having given negative results both as to electro-diagnosis, and to electrical treatment. The first was rendered very difficult, it is true, on account of the excessive thickness of adipose tissue intervening between the skin and the muscles.

21. *Hoedemaker on Erb's Combined Paralysis of the Upper Extremity.*—In this paper (*Archiv für Psych.*, 1879) the author describes some experiments he made on the excitation of the supraclavicular motor point, at the point of exit of the fourth and fifth cervical nerves from between the scaleni, with a view to determine the distribution of the fibres of these roots. The muscles thrown into contraction were the deltoid, biceps, brachialis anticus, and supinator longus, and the pectoralis major slightly. Sensations of tingling were observed in the thumb and index finger, the radial side of the forearm, and the outer surface of the arm.

22. *Freusberg on the Irritability in Paralysed Muscles.*—Dr. Freusberg has three papers on this subject in volume ix of the *Archiv für Psychiatrie*. In his first paper (page 244) Dr. Freusberg frames a hypothesis to explain the degenerative reactions of muscles, based upon a peripolar-molecule theory, similar to that of Dubois-Reymond. In his last communication (*ibid.*, p. 469), he abandons this in favour of a more tangible explanation. The muscle-molecules are homogeneous; those in action assume a positive potential towards those at rest. Owing to intermolecular pressure they are flattened out, but tend to assume a globular form in virtue of intramolecular tension. The latter depends upon the vital processes in the molecule. The nervous influence manifests itself as increasing the intramolecular tension. Now, the muscle is at rest when the inter- and intramolecular forces are balanced, and is thrown into action when the intramolecular overcomes the intermolecular tension. Persistent contraction means restored equilibrium between the inter- and intratension, but at a higher potential than in the state of rest. Contraction depends upon the rotation of the long diameter of the molecules from a longitudinal to a transverse direction. The vital process upon which depends the intramolecular tension is the affinity for, or want of, oxygen. The intermolecular pressure depends partly upon mechanical compression, partly upon impediment to the supply of oxygen. Experiments on prepared nerves and muscles give different results from those obtained on the living body, because in the latter there is a constant supply of oxygenised food material. Space does not allow us to follow minutely the author in the somewhat intricate actions of the anode and cathode on the affinity of the molecules for oxygen, and their influence upon its supply in the healthy human muscle. The K.C.C. is brought about by the satisfaction of heightened affinity, *i.e.*,

intramolecular pressure; K.C.C. by the satisfaction of normal affinity under diminished intermolecular pressure; A.O.C. by the same, due to increased supply of oxygen; and so on. In degenerated muscle, the intermolecular pressure falls through the loss of nervous influence. The C.C.C. and A.O.C. disappear because the affinities for oxygen are too easily satisfied to produce rotation of the molecules; whereas the A.C.C. and K.O.C., which depend upon satisfied affinities through diminution of intramolecular pressure, will obviously be strengthened. The author's theory is interesting, as affording an example of the passage between Du Bois Reymond's molecular nerve-physiology and the chemical hypothesis now gaining ground in many quarters.

23. *Vintschgau on the Electric Excitation of the Tongue.*—The author gives (*Pflüger's Archiv*, 1879, p. 81) a history of all previous researches on the subject. The galvanic taste is distributed over the tongue as the special nerve itself. It is less marked at the tip. The two poles have different effects. The anode produces a bitter metallic taste; the cathode an acid metallic taste. Ritter thought that the anodal taste was acid, and became alkaline at the break, and *vice versa*. But this is inaccurate; there is merely an increase in the metallic element of the sensation on breaking the current. Different observers do not always use the same expressions to describe their sensations, but there is no ground to assume that the acid and alkaline products of decomposition are the cause of the anodal and cathodal taste respectively.

24. *Giovannini on Electricity in Eczema.*—The patient (*Annali Universali di Med. e Chir.*, 1879, Band i) was a male, aged 78, and had suffered during twelve years from eczema of the left forearm and both legs. There had been a relapse after treatment by India-rubber bandages. He was now faradised locally for a quarter of an hour daily (after secretion had been arrested by appropriate applications). Twenty sittings sufficed to bring about a marked amelioration, and, after forty-six, the patient was discharged as cured.

24. *Utzmann on Neuroses of the Genito-Urinary Organs.*—This (*Separat Abdruck aus der Wiener Klinik*, 1879) is a valuable paper on the neuroses of the genito-urinary organs, in the treatment of which electricity is made to play an important, though not an exaggerated part. Faradisation of the bulbocavernosus and ischio-cavernous muscles is an useful proceeding in impotence, and is best effected by using one of the electrodes internally, in the rectum.

27. *Armaingaud on a Case of Scleroderma cured by the Continuous Current.*—In this paper (Paris 1879) the author describes an inveterate case of scleroderma, in which the continuous current (12 to 27 cells) was applied from the spine to the right arm, daily for fifteen minutes. In a fortnight marked improvement was noticed, and in three months the right arm had resumed its functions, whilst the left (owing probably to the nutritive influence on the cord) was also on the way of recovery.

32. *Wilhelm on Two Cases of Basedow's Disease.*—In one of these cases (*Pester Med.-Chir. Presse*, 1879, No. 23) galvanisation of the neck was followed by rapid and marked relief.

33. *Schwimmer on a Case of General Scleroderma.*—In a case of general scleroderma (*Ibid.*) where all previous treatment had failed, the author, on the assumption that the disease was a tropho-neurosis, galvanised the cord and 'sympathetic'. Within six months, substantial improvement had been obtained.

34. *Diculafoy on Paralysis of the Radial Nerve.*—M. Diculafoy relates (*Gaz. Hébdom.*, 1879, No. 22) a case of musculo-spinal paralysis cured by the current. The author does not think that the retention of electro-contraction in such cases is explained by the actual theories, which he discusses.

48. *Hesse on an Absolute System of Electrical Measurement.*—The author (*Centralblatt für Nervenheilk.*, 1879, No 23) recommends the adoption of the system of measurement in electro-therapeutics advocated in the Reporter's *Introduction to Medical Electricity*, chap. 1.

49. *Müller on Acute Atrophic Spinal Paralysis in Adults.*—The author (Stuttgart, 1880) gives many valuable details on the muscular and nervous reaction in polyomyelitis (see an abstract of the work in *Brain*, January 1880).

50. *Biedermann on the Polar Action of the Electric Current on Muscle deprived of its Nerves.*—The results of the author have been obtained with Hering's double myograph. They are summed up as follows. (*Sitzungsberichte der k. k. Akad. der Wissenschaften*, Band xxix). Both the closure and opening stimulation may set up a persistent contraction of the muscle, of which the amplitude depends chiefly, in the first case on the current strength, in the second, also on the duration of the current. Contractions obtained with the minimum current strength remain confined to the cathodal half of the muscle; persistent contractions are at first so confined, but, with increasing strength, pass over to the anodal half. On making a galvanic current, the muscle is stimulated at the point of exit of the current only, and thence is propagated from section to section throughout the muscle; on breaking the current the same phenomenon occurs at the point of entrance. Single induction-shocks act as the closure of a galvanic current. The period of latent stimulation is always shorter when, *ceteris paribus*, the point of stimulation is at the lower end of the muscle.

51. *Hering on the Methods of Researches into the Polar Actions of the Electric Currents on Striated Muscle.*—The author lays down (*Ibid.*, p. 237) the conditions to be observed in studying the polar effects on muscles, criticises the researches of previous physiologists upon this subject, and describes his new double myographion, used by Biedermann in the observations just recorded.

52. *Tschiriew and de Watteville on the Electrical Excitability of the Skin.*—Tschiriew and de Watteville (*Brain*, July 1879) criticise the previous attempts to solve the problem whether the different sensitiveness of different parts of the body is due to mere structural differences (thickness of the epidermis, number of nerve endings) or to actual differences in the excitability of the nerves in these parts. Leyden and Bernhardt had left the question open, but Drosdoff thought he had proved the latter alternative to be true. The authors enumerate the conditions to be fulfilled by the experimentation, and describe the means of fulfilling them. They used faradic currents of enormous tension, and an electrode composed of a bundle of insulated wires. They found that the minimum amount of sensation is awakened in every part of the body with the same strength of current; hence that the irritability of the cutaneous nerves is the same at every part of the body.

53. *Buzzard on Hysterical Hemianæsthesia.*—The author (*Lancet*, 1879, vol. ii, p. 865) relates the case of a girl of thirteen who, after a strong emotion, suffered from contraction of the left arm. This disappeared shortly after admission into hospital, but

there remained profound anæsthesia of the arm and hand, and partial loss of sensation in the left leg and side of the face. On applying even a strong interrupted galvanic current to the right hemisphere, it was found that the galvanic giddiness was not produced; whilst the left hemisphere reacted normally to the current. [This case is important and interesting. In Rosenthal's cases, reported above (3 and 4), hemianæsthesia was complete, but then the cerebral reactions failed on the same side. In a private communication, Dr. Vigouroux tells me that he has found the cerebral reactions change from side to side with the oscillations of transfer; he also found the cerebral resistance to the current increased, though not proportionately to the loss of reaction. As Dr. Buzzard rightly observes, the phenomenon here described is of great importance, as throwing some light upon the obscure problems of hysteria.]

A. DE WATTEVILLE.

PATHOLOGY.

RECENT PAPERS.

1. DECAISNE, GASTON.—On Brachial Monoplegia. (*Bulletin de l'Académie de Médecine*, Nov. 11, 1879.)
2. GREEN.—A Case of Recurring Fibroma. (*New York Medical Record*, p. 64, 1880.)
3. ROLLER.—Cholelithiasis as a Cause of Cirrhosis Hepatis. (*Berliner Klin. Wochens.*, No. 42, 1879.)
4. BRISSAUD, E.—Secondary Degenerations in the Cerebral Peduncle. (*Le Progrès Médical*, Oct. 11, 1879.)
5. STIMSON, E.—The Value of the Carbolic Spray as a Preventive of Putrefaction.
6. WIENER.—Fatty Embolism. (*Archiv für Experiment. Pathologie*, Band xi.)

1. *Dcaisne on Brachial Monoplegia*.—At a recent meeting of the Academy of Medicine in Paris, M. Bourdon presented a communication by M. Gaston Decaisne, containing thirty-five cases of brachial monoplegia, of which several had come under his own personal observation (*Bulletin de l'Académie de Médecine*, Nov. 11, 1879). His conclusions, which are in accord with those long maintained by Dr. Bourdon, are, that there exists in each cerebral hemisphere a centre which presides over the motility of the arm on the opposite side; that this centre, which is more extended than has hitherto been generally admitted, comprises not only the ascending frontal and parietal, but also a smaller or larger portion of the neighbouring frontal and parietal convolutions. M. Decaisne is of opinion that, in consequence of the larger surface of the motor centre, movement may be re-established by the aid of the cells in the vicinity of the lesion which have remained in a healthy condition. M. Decaisne describes the particular characteristics of the paralysis in question exceedingly well, and his paper will assist in distinguishing them from those having a central origin; a diagnosis which is frequently difficult to make at the bedside.

2. *Green on a Case of Recurring Fibroid*.—An interesting case of a myxosarcoma of the back, upon which twelve operations were performed in thirty-nine years, is reported by Dr. Green of Elizabeth, New Jersey (*New York Medical Record*, p. 64). It is probable that the growth first developed from the soft tissues of the back, but, after the second operation, the recurrence of the tumour was always

accompanied by partial paralysis of the lower extremities; and, at each successive attempt at removal, it was found necessary to advance further and further into the space between the second and third dorsal vertebræ, in which direction the neoplasm was constantly extending. Each operation succeeded in relieving the paralytic symptoms, either partially or completely, with the exception of the last, which was performed two months before death took place, and from which no relief was experienced. At the necropsy, the left pleural cavity was found filled with partially coagulated blood which came from the posterior and upper portion of the lung, at which point the pulmonary substance was broken down from the pressure of the advancing tumour. The mass of the tumour was situated in the posterior mediastinum, and was at least 17 inches in circumference, and weighed about a pound and a half. It was pronounced by Drs. C. Heitzmann and J. B. Hunter of New York to be a myxosarcoma. The large mass in the thorax was continuous with a smaller one passing through between the second and third ribs of the left side to the corresponding intervertebral foramen, and through this to the interior of the spinal canal, in which situation the growth was about the size of a small cherry, and was loosely attached to the dura mater. The meninges at this point were thickened and opaque. The second and third dorsal vertebræ were roughened and partly absorbed near the intervertebral foramen by the pressure of the tumour.

3. *Roller on Cholelithiasis as a Cause of Cirrhosis Hepatis*.—Cases of cirrhosis due to cholelithiasis have been recorded by several observers, but they are still so rare that the following case from the practice of Dr. Roller of Treves possesses considerable interest (*Berliner Klinische Wochenschrift*, No. 42, 1879). A woman, 69 years of age, who had never been addicted to drink, died after suffering for some months from the usual symptoms of cirrhosis of the liver. The necropsy showed general peritonitis of old standing, with signs of a recent inflammatory exacerbation; a perfect anatomical picture of interstitial hepatitis; a gall-bladder presenting the residue of old inflammation, and containing a large gall-stone. As in this case alcoholism could be absolutely excluded, the gall-stone was regarded as the primary cause of the hepatic disease. The various steps of the morbid process were thought to be as follows. First, the gall-stone excited an inflammation of the gall-bladder which resulted in thickening of its walls. From this starting point the inflammation extended in all directions, but particularly to the transverse colon, as was evidenced by the thickness of the adhesions which bound the right flexure to the gall-bladder. The inflammation crept into the liver along the tracks furnished by Glisson's capsule; here it led to the development of new connective tissue and the resulting cirrhosis.

4. *Brissaud on Secondary Degenerations in the Cerebral Peduncle*.—The internal capsule, as seen in a horizontal section, is somewhat V-shaped, and may be divided into an anterior or lenticulo-caudate portion, a posterior or lenticulo-optic portion, and a middle portion or genu. Charcot and Flechsig have shown that lesions of the anterior two-thirds of the lenticulo-optic limb cause secondary degeneration of the middle portion of the crus cerebri. Charcot has further shown that lesions of the lenticulo-caudate limb cause degeneration of the inner portion of the crus. In the former case, the degeneration passes downwards to the anterior pyramid and spinal cord;

in the latter, it stops at the pons Varolii. It is to elucidate the latter variety of degeneration that M. Brissaud's paper (*Le Progrès Médical*, Oct. 11th, 1879) is written. Seven cases are reported, in all of which there was degeneration of the inner portion of the crus. The degeneration sometimes occupied the whole of this inner band, sometimes only a part of it. In some instances, this band alone was degenerated; in others, there was degeneration, also, of the middle portion of the crus. In three of the cases, there was marked mental weakness, but no paralysis; in these, the inner portion of the internal band, and the lenticulo-caudate, or anterior segment of the internal capsule, were degenerated. In three other cases, while the symptoms of hemiplegia had almost disappeared, there remained either facial paralysis, aphasia, or paralysis of the tongue; and, in these cases, there was degeneration of the outermost portion of the internal band of the crus, and of the *genu* of the internal capsule. It would seem, therefore, that motor fibres for the face and tongue are contained in this portion of the internal capsule and internal band of the crus. In no case could the degeneration of the internal band be traced downwards as far as the anterior pyramid.

W. J. DODDS, M.D., D.Sc.

5. *Stimson on the Value of the Carbolic Spray as a Preventive of Putrefaction.*—Dr. Lewis A. Stimson tested the carbolic spray as a germicide, by exposing flasks containing pure boiled urine in the cloud of spray. Three tubes were heated and allowed to cool in the spray, then exposed under a cloud of spray for 1½ hours, and afterwards closed with plugs of cotton-wool wet with alcohol. During the exposure of the flasks, the floor was swept in order to raise the dust. Particles of dust were seen to be caught on the edge of the tubes, and a purified glass rod was therefore used to push them into the fluid. In the tube in which this was done, bacteria developed. The second tube was tilted so as to bring the fluid into contact with the neck, and here also development occurred. The third was undisturbed, and remained pure. In a second set of experiments, wide-mouthed beakers were used and were exposed for three-quarters of an hour. Organisms developed in all. Test experiments showed that these organisms had entered during the exposure. [These experiments do not seem to be satisfactory. We are told in the first case that the spray was placed a foot above, and 3½ feet distant from, the tubes, and that 15 oz. of carbolic lotion (1 in 20) were used up. During half the time a board was so placed as to throw the spray back over the flasks. Now, if the flasks were only under a spray, a foot distant from it, during half the time of exposure, the result cannot be wondered at, for eddies would be produced by the spray, which would drive unpurified dust into the vessels. But if the spray passed directly over the mouths of the flasks, if these were enveloped by it, it is difficult to conceive that the spray could have played so long at such a close distance, and that so much lotion could be used without the entrance into the urine of a quantity of carbolic acid more than sufficient to render it sterile. But granting the sufficiency of the method, it must be observed that the floor was swept, and that masses of dust were seen by the naked eye as they fell through the spray. It would of course be unreasonable to expect such masses to be thoroughly moistened by the spray, and therefore the escape of any organisms contained in them is not surprising. Such an experiment cannot tell against the efficacy

of the spray in surgical work, for it is not the custom to sweep the floor during an operation or during the changing of a dressing.—*Rep.*]

W. WATSON CHEYNE.

6. *Wiener on Fatty Embolism.*—M. Wiener describes in the *Archiv für Exper. Pathologie*, Band xi, the results of experiments which he has performed under the direction of Professor Cohnheim. He finds that fatty embolism may take place from the lymph-cavities; it was produced in the lungs as well as in the course of the systemic circulation by injection of olive-oil, not only into the peritoneal and pleural cavities, but also into the subcutaneous tissue. The intervention of the lymphatic glands thus does not prevent the formation of fat-embolism. It was only in cases where the embolism reached a very high degree that dangerous symptoms and death, arising from general pulmonary oedema, took place; the fatty embolism was usually unattended by any symptoms. In no case (unless there were complications) was a rise of temperature observed, and inflammatory changes in the embolised organs were never met with. The fat introduced into the circulation was removed by the urine, which often contained fat several days after injection into the lymph-passages. The fatty matter was found almost always in the loops of the glomeruli, and in the other capillaries of the kidney; it was also found in the lumen of the urinary tubules, so that the glomeruli appear to be the seat of excretion, which the author believes to take place by a process of filtration.

SURGERY.

RECENT PAPERS.

1. MOTTRAM.—On a Reduction of Old Dislocation of the Femur. (*Transactions of the State Medical Society of Kansas*, 1879.)
2. KEYES, E. L.—On Litholapaxy, with the Report of a Fatal Case. (*New York Medical Record*, Dec. 20, 1879.)
3. BRUNS, PAUL.—On Antiseptics in War. (*Deutsche Militärärztliche Zeitschrift*.)
4. SAWYER.—On a Modification of the Shot-bag for Compressing Arteries. (*Canada Med. and Surg. Journ.*)
5. SEILER, CARL.—On the Nasal Douche. (*Dis. Naso-Pharynx*, p. 76.)
6. HERVILUX.—Naso-pharyngeal Chondroma. (*Bulletin de la Soc. de Chirurgie*; and *Centralblatt für Chirurgie*, No. 48, 1879.)
7. ANGERER.—Resorption of Extravasations of Blood. (*Centralblatt für Chirurgie*, No. 49, 1879.)
8. MERRIAM, E. D.—Perityphlitic Abscess Aspirated through the Rectum. (*Buffalo Medical and Surgical Jour.*, Dec. 1879.)
9. SANDS.—Rupture of a Blood-Vessel in Reducing Dislocation of the Shoulder-Joint. (*New York Med. Record*, Jan. 10.)
10. KOCHER.—Acute Osteomyelitis and its Causes. (*Centralblatt für Chirurgie*, No. 39, 1879.)
11. MIKULICZ.—On the Method of Correcting Sinking of the Nose. (*Medizinische Jahrbücher*, Jan. 1880.)

1. *Mottram on Reduction of Old Dislocation of the Femur.*—A successful reduction, after four months, of the head of the femur, dislocated upon the pubes, is reported in the *Transactions of the State Medical Society of Kansas*, 1879, by Dr. Mottram. The patient was a lad aged nine, who was playing on a pile of lumber when the whole fell over, a portion of the mass falling on the boy's knee, already brought up nearly to the abdomen, and forcing the knee out-

ward and still nearer the abdomen. Examination gave the following result. The head of the femur lay upon the pubic bone and the iliac, above Poupart's ligament, between the anterior superior spinous process of the ilium and the femoral vessels, under cover of the psoas and iliac muscles; the buttock was flattened on the injured side; the foot and knee were very much everted, and widely separated from the other limb. The limb was shortened about half an inch. Pain and tenderness had wholly disappeared. A false capsular ligament seemed to support the head in its new position. The boy was 'agile as a deer', but was obliged, when moving, to place his hand on the knee to prevent undue flexion of the dislocated femur on the trunk. Chloroform being given, energetic flexion, with forcible abduction, tore open the newly formed capsular ligament. Then, upon drawing the limb downward and rotating it inward, the head slowly resumed its normal position. Although the infiltration and ecchymosis were followed by peritonitis, requiring energetic treatment, the lad recovered remarkably well, and in six weeks was reported perfectly recovered. No splints were used, and the only restraining apparatus employed was a towel to keep the two knees together.

2. *Keyes on Litholapaxy, with the Report of a Fatal Case.*—At a late meeting of the New York Pathological Society (*New York Med. Record*, Dec. 20, 1879), Dr. E. L. Keyes presented specimens of five urinary calculi removed from five old men averaging over sixty-six years of age. The largest stone weighed 540 grains, and was removed by Thompson's washing-bottle in fifty-seven minutes, all told. The smallest stone weighed ninety-eight grains when dry. It was removed in nineteen minutes. Dr. Keyes used his own modification of the lithotrite for crushing the stone in every case. Thompson's newest improvement in the washing-bottle was used in the last case. These stones made a series of twenty consecutive operations of rapid lithotripsy performed by Dr. Keyes in connection with Dr. Van Buren. There had occurred one death. It was the fourth of the last five of the series. The bladder and kidneys were shown. This patient was a gentleman aged 67. He was known to have pyelitis and kidney disease before the operation. His urine was very light, and contained casts and albumen besides the pus. The patient had been confined to bed by his maladies nine months. The stone had not been discovered. Dr. Keyes concluded to attempt rapid lithotripsy, as being the only operation offering the patient any chance. The bladder was pouched toward the right ureter. Thirteen minutes were consumed in catching the stone for the first time, and a seizure was only finally effected by turning the patient well upon the side. After one hour of manipulation, rendered very unsatisfactory by the pouched condition of the bladder, the sitting was terminated; 190 grains were removed. No chill or serious consequence followed, and it was decided after three weeks to undertake another sitting. The second sitting lasted one hour. *Débris*, weighing when dry 28 grains, required one hour for their removal, it being next to impossible to get the last fragments out of the pouch. An increase in the quantity of pus in the urine followed, with almost total suppression and death on the fifth day. The right kidney was about one-half its normal size, and the seat of interstitial nephritis. The left kidney was of full size, but similarly diseased, although to a less extent. Each kidney pelvis contained about a gill of thick pus, the left one some fragments of phosphatic stone. Both ureters were thickened and

dilated. The urethra was healthy. The prostate was the seat of some central enlargement. The bladder was smooth and uncongested. It showed no evidence of violence. The mucous membrane was unbroken. The pouch at the site of the entrance of the right ureter into the bladder was very evident. The walls of the bladder were much thickened. Dr. Keyes maintained in this case that the patient's diseased condition was the cause of death, a catastrophe precipitated undoubtedly by the operation. He still believed, however, that the latter was justifiable under the peculiar circumstances of the case. In one very similar case the same operation had been entirely successful at his hands. In the present instance, as shown by *post mortem* examination, the operative manœuvres had not resulted in any direct physical lesions.

3. *Bruns on Antiseptics in War.*—Professor Paul Bruns, of Tubingen (*Deutsche Militärärztliche Zeitschrift*), recommends the employment on the site of the ambulances in war of a powder, to be strewn over the ground, composed of a mixture of 200 grammes of carbolic acid, 400 grammes of resin, 150 grammes of glycerine, and 250 grammes of alcohol, with precipitated chalk, in the proportion of one part of the carbolic solution to eight of chalk, so that the powder contains 2 per cent. of carbolic solution. The carbolic solution serves also for the preparation of Bruns' carbolic gauze, in which 2 litres of alcohol are added to 1000 grammes of the solution for making 40 mètres of carbolic gauze; and also for a powder which can be carried with the ambulance in separate boxes containing each 1000 grammes. Each soldier carries as his dressing 15 grammes of jute, a gauze bandage, and a piece of waxed paper. The hospital attendants each have a box for strewing the powder. Bruns says that he has had also good success with chronic ulcers, which can be treated while the patient is walking about, by the use of such bandages renewed at intervals of from three to eight days, the surface of the same being covered with the powder. The mixture can be made without the addition of alcohol, by the use in each 100 parts of 25 parts of carbolic acid, 60 parts of resin, and 15 parts of stearine. The resin and stearine are mixed by slight warming; and, after partial cooling of the mass, while it still remains fluid, the carbolic acid is added and the mixture has the consistence of a soft ointment. The method of employment is the same. It is to be remembered that 80 parts correspond to 100 parts of the alcoholic solution. The advantages which Bruns claims are (1) the concentrated form, and (2) the secure fixing of the carbolic acid. In order to have a powder which contains 4 per cent. of carbolic acid, the mixture is added to chalk powder in the proportion of 1 to 5 instead of 1 to 8. The observations on which this paper is founded were made during six months in his hospital.

4. *Sawyer on a Modification of the Shot-Bag for Compressing Arteries.*—Dr. A. F. Sawyer, of San Francisco, describes (*Canada Med. and Surg. Jour.*, p. 281) a modification of the shot-bag, which he considers to have certain advantages over the methods of compression in ordinary use. It consists of a strong canvas bag three inches in diameter by two and a half feet long, the lower extremity closed by a hollow caoutchouc ball two and one-half inches in diameter, the bag being capable of containing twenty-five pounds of fine bird-shot. The apparatus is suspended from the ceiling in the usual manner, a strip of soft buckskin being placed over the skin to guard against chafing. In the case in which the apparatus

was tested its pressure was well-borne, although digital and various instrumental pressures were impossible. The application was continued for six hours and ten minutes, when all sensation in the tumor (popliteal aneurism) ceased. The advantages claimed are rapid work, accurate gauging of the force employed, and the comfort with which it is borne by the patient.

5. *Seiler on the Nasal Douche*.—Dr. Carl Seiler (*Dis. Naso-Pharynx*, page 76) gives the methods by which the nasal douche should be used. 1. The bottom of the vessel should, under no circumstances, be elevated more than an inch or so above the eyebrows of the patient, as otherwise the pressure is so great as to force the water into the frontal sinuses or into the Eustachian tubes, giving rise in the first instance to intense frontal headache, and in the second to an inflammation of the mucous membrane of the middle ear. 2. The temperature of the liquid should be raised in the vessel to slightly above blood-heat, so that after it has run through the tube it will feel neither hot nor cold to the parts. 3. The liquid used should be of the same density as the serum of the blood; the congested capillaries being near the surface of the mucous membrane, while the liquid is on the other side, only a thin wall of epithelial cells separates them, and thus the most favourable conditions for osmosis are presented. If the liquid used in the douche be of greater specific gravity than the serum of the blood, exosmosis of the latter will take place, leaving the corpuscles more densely crowded in the capillaries, thus clogging them and producing an irritation of the sensory nerve-filaments, which is perceived as a burning pain. If, on the other hand, the liquid be of less density than the serum of the blood, endosmosis will occur, and the capillaries will be distended with the increase of liquid, which again causes pain by excitation of the nerve filaments. Hence the value of a liquid having the same density as blood-serum. Such a liquid may be obtained by mixing 56 grains of salt with a pint of water, or a teaspoonful of salt with a pint of water at 100 deg. F.

6. *Hervieux on Naso-Pharyngeal Chondroma*.—Hervieux (*Centralblatt für Chirurgie*, No. 48, 1879; from *Bull. de la Soc. de Chir.*) had a patient, aged 22, who had suffered for five years with an enlargement below the inner corner of the left eye. The left, and later the right nasal passage, became gradually filled up, so that the patient had to breathe through the mouth. For three years previously the left eye had been prominent; vision was diminished. A perforation had occurred through the palate. The affection was painless, the general health of the patient unaltered. On examination, the face was found broadened; the voice was nasal; the mouth always open. The nose was broad, flattened; in the upper left side was a hard roundish growth. The left eye was dislocated forward and outwards. The patient could only distinguish between light and darkness. A tumour could be observed in the left nasal passage, filling it and pressing the septum aside. The hard palate was convex, and perforated with a tumour filling the perforation. The velum was pushed forward. The naso-pharyngeal space was felt to be filled with a round, smooth, bone-like, absolutely immovable tumour. The question lay between osteoma and chondroma. A needle thrust easily into the depths of the tumour showed its cartilaginous character. There was no tendency to hæmorrhage. An incision was made, beginning at the left ala

nasi, running up to the inner corner of the eye, and then across the root of the nose. The soft parts being then dissected back from the bone, the tumour was laid bare and was removed, together with a portion of the upper jaw, having to be taken out piecemeal. It grew from the left side of the nose, filled the antrum of Highmore, and perforated the nasal septum. It weighed 135 grammes (2090 grains). There was but little hæmorrhage. The wound healed in three weeks, and the growth had not returned eight months later. Chondroma of the nasal passages is very rare. Weber found it only eight times in 307 tumours of the nasal passages; and out of 267 chondroma of various parts of the body, only eight occurred in this region.

7. *Angerer on Resorption of Extravasations of Blood*.—O. Angerer (*Centralblatt für Chirurgie*, No. 49, 1879), in a recently published brochure, publishes the following conclusions. 1. The injection of fermenting blood into the arteries and veins gives rise to extensive thromboses and embola in the larger and smaller vessels of the living body. 2. In extravasations occurring in the living organism, fermentation comes into play. 3. This fermentation is dependent for its degree upon the quantity of the extravasation, as well as the rapidity of its absorption. 4. The absorption of blood gives rise to fever. The author calls attention to Professor Wahl's experience in the fever occurring after the employment of antiseptic precautions in operations. Wahl thinks that the so-called 'septic fever' of Volkmann is probably due to the fermentive influence of the extravasated blood. In conclusion, Angerer recommends the subcutaneous injection of defibrinated blood and serum instead of transfusion. Injected in small quantities, no danger is to be apprehended. [Unfortunately for Angerer's theory, small injections of this sort do little good, and larger ones are not by any means free from danger.]

8. *Merriam on a Case of Perityphlitic Abscess Aspirated through the Rectum*.—A very interesting case of perityphlitic abscess, successfully treated by aspiration through the rectum, is reported by Dr. E. D. Merriam, of Conneaut, Ohio (*Buffalo Medical and Surgical Journal*, December 1879). After running a favourable course, fluctuation was discovered on the twelfth day at the right side of the rectum, about two and a half inches from the anus. On the fourteenth day, the abscess was punctured with the largest needle of Dieulafoy's aspirator, and one pint and three-quarters of fetid pus drawn off. No pus was formed after the operation, and the patient was discharged cured two weeks later.

9. *Sands on Rupture of a Blood-vessel in Reducing Dislocation of the Shoulder-joint*.—The following case was related by Dr. Sands at a meeting of the New York Surgical Society, on December 9 (*New York Medical Record*, January 10). He was called to see a lady, aged 86, who, seven or eight weeks previously, had had her right shoulder dislocated downwards. She was seen by a gentleman in Connecticut soon after the accident, and he reduced it without special difficulty. About ten days afterwards the dislocation was reproduced, and then nothing was done towards placing the head of the bone in position until she came to Brooklyn, when Dr. Rockwell made a slight attempt to restore it, but without success. Dr. Sands told the patient and her friends that an effort at reduction was dangerous, but the lady expressed her desire and willingness to have something done. She was, therefore, anæsthetised with

ether, and what he regarded as a very moderate effort to reduce the dislocated bone was begun by putting the left hand in the axilla, while with the right, using the arm as a lever, movements usually resorted to in breaking up adhesions were made. Evidently some of the adhesions did rupture, and after continuing the movements for three or four minutes, a sheet was placed around the patient's waist, and held from the opposite side, while slight traction was made upward and outward, no towel being used for the purpose. While arranging to make a second attempt, he thought he perceived a swelling in the axilla. He removed the sheet, when it was very apparent that a blood-vessel had given way; there was quite a rapid increase of the swelling in the axillary region, and it was very soon as large as the head of a child at term. There was no pulsation in the radial, the ulnar, or the brachial artery. Nothing in the way of treatment was done except to place the arm by the side and apply a bandage, but within half an hour the skin in the axilla had begun to show discoloration, within a few hours the discoloration was very marked and extended up to the shoulder. The patient was excessively prostrated and at one time it seemed not improbable that she might die from syncope. Hypodermic injections of brandy were given, and brandy by the mouth as soon as it could be swallowed, but she remained in a very low condition for several days, especially at night. In the course of the next day after the accident the extravasation gave signs of its presence upon the side of the chest, and later it could be readily seen upon the side of the body as low as the side of the pelvis. The discoloration behind covered nearly the entire scapular region. There was neither fluctuation nor murmur over the region of extravasation. There had been gradual improvement, and although pulsation had not returned in any of the arteries of the right arm, the limb presented no unfavourable appearance. The patient made no special complaint, except with reference to a very uncomfortable tingling, at times, along the distribution of the ulnar nerve. He thought that no other vessel except the axillary artery was ruptured, was gratified at an unexpected recovery from so dangerous an accident, and was surprised that such a rupture should occur from the use of so slight an amount of force. There was no interference with the general nutrition of the limb.

10. *Kocher on Acute Osteomyelitis and its Causes.*—Dr. Kocher (*Centralblatt für Chirurgie*, No. 39, 1879) says that acute osteomyelitis is produced, like other inflammations, by infection, but still it is not a *specific* infectious disease. His observations were made on fifty-two cases, of which, however, only thirty were positively demonstrated to be cases of acute osteomyelitis. Of these thirty cases twenty-six were males and four females; all were between 8 and 25 years of age. In a few of the cases the patients had caught cold or had received an injury; in seven cases the osteomyelitis was secondary, having developed in one in the course of a typhus, and in the others during the existence of inflammatory processes in different parts of the body. Kocher believes that osteomyelitis is excited by the action of agents which may exist for some time in the body without giving rise to the general symptoms of infection of the bones. The bones which grow the most rapidly are the most frequently affected; hence certain spots, such as the lower end of the femur and the upper end of the tibia, present a special *anatomical predisposition*. In the experiments on animals

several methods were employed. 1. Agents which exerted a physical or a chemical action (liquor ammonia, tincture of cantharides, croton oil) were tried with antiseptic precautions. 2. Decomposing fluids and pathological secretions were injected. 3. The first method was combined with the internal administration of putrid matters. The first method, as a rule, failed, while the third succeeded. True metastases in other organs were not observed. Hence it follows, that under some circumstances irritant matters may pass from the intestinal canal into the bony marrow, and give rise to osteomyelitis. In acute osteomyelitis disturbances of function of the adjacent joints often precede the other symptoms; purulent effusions into the joints may also occur early. If the abscess be opened, the epiphysis will often be found separated. The pus frequently contains free fat. The lymph-glands are only slightly implicated. The fever is usually high from the beginning, without morning remissions, and sometimes remains high for some days after the abscess has been opened. Recovery, when it occurs, is greatly protracted by the necrosis, which almost always occurs. Death occurs either from multiple acute pyæmia, with metastases in the lungs, kidneys, and heart, or from the development of secondary inflammations in some internal organs (pyelo-nephritis, pleurisy, etc.), after the original bone disease has begun to improve. There is also danger of septicæmia after the abscesses have opened. Kocher divides the affection into three stages from a pathologico-anatomical standpoint. 1. The stage of purulent infiltration of the medulla, with the formation of isolated foci of disease; from these the pus extends to the periosteum and synovial membrane. 2. The stage of formation of abscesses and sequestra in the cortical and spongy tissues, and in the epiphyses. 3. The stage of repair. The osteomyelitis becomes chronic in the form of chronic osteitis, or of abscess of bone; the former terminates in osteosclerosis or in osteoporosis. In the way of treatment Kocher recommends the salicylate of soda in doses of a drachm and a half to 6 drachms daily, or if that is not borne, alcohol in larger quantities. Locally, he advises the evacuation of the pus by puncture, and the injection of a 5 per cent. solution of carbolic acid, one or more hypodermic syringefuls daily. The fluid should be injected not alone into the abscess, but also by means of hollow drills into the medulla. If the abscess have already broken, free incisions should be made down to the periosteum, and strict antiseptic dressing employed. If the joint be involved it can sometimes be saved by washing it out with a 5 per cent. solution of carbolic acid, but amputation will often be necessary.

11. *Mikulicz on the Method of Correcting Sinking of the Nose.*—At a meeting of the Imperial and Royal Medical Society of Vienna (*Medizinische Jahrbücher*, January, 1880), Dr. Mikulicz shewed a patient on whom he had performed rhinoplasty, and made some remarks on the subject. He said that the problem of making an artificial support to the nose, which was the most difficult part of rhinoplasty, had been attempted to be solved by surgeons in very various methods. Dieffenbach and Rust tried a support made of a plate of gold; this, however, produced suppuration by its pressure, and soon had to be removed. Leisrink used a support made of amber in the case of a child three years old, allowing the parts to heal over it. There is no information, however, as to the permanency of the success, or as to the state of affairs during the growth of the child. Other methods have been tried by Dieffenbach, Langen-

beck, Busch, Volkmann, Thiersch, etc. The idea of Dr. Mikulicz was to construct a nasal support which might be inserted and removed at will, just as is done with artificial sets of teeth and artificial eyes, which do not produce ulceration if they are frequently changed and kept clean. He constructed for this purpose a support consisting of two symmetrical bent pieces of copper wire covered with vulcanised caoutchouc. The two first portions lie parallel to each other under the bridge of the nose, and raise it up. The two middle pieces lie like the sides of a steep roof, and occupy a position nearly corresponding to the lateral border of the aperture pyriform. The posterior piece is slightly curved, and rests against the lower border of the aperture. The apparatus can be introduced and removed by means of a small forceps, and, when in the nose, is not seen. It causes no trouble, and the wearer soon becomes accustomed to the sense of a foreign body which it produces. The patient, who was exhibited to the society, was a woman aged 27. She had worn the apparatus sixteen days, and had acquired considerable facility in its management.

ORTHOPÆDIC SURGERY.

RECENT PAPERS.

1. BARWELL, R.—On Certain Points in the Etiology of Hip-Joint Disease. (*Lancet*, August 2, 1879.)

2. BERRY, G. A.—Note on a Case of Lateral Curvature of the Spine treated by a New Method (*Edinburgh Med. Journ.*, July 1879.)

3. Joint-Diseases, Diagnosis, and Treatment of: Papers by L. A. SAYRE, J. FAGAN, W. MACCORMAC, H. M. JONES, F. J. GANT, G. B. MORGAN, C. STEELE. (*British Medical Journal*, August 30, 1879.)

4. BROWN, BUCKMASTER.—Hints on Diagnosis and Treatment of Club-foot. (*Boston Med. and Surg. Journ.*, Nov. 17, 1878.)

5. JANICKE.—Upon an Unusual Complication of a Case of Spondylitis Cervicalis and Dorsalis. (*Breslauer Aerzt. Zeitschr.*, 1879, No. 17.)

6. JEUNI.—Congenital Dislocation of the Humerus Cured. (*Correspondenzblatt für Schweiz. Aerzt.*, 1879, No. 19.)

7. Operative Treatment of Genu Valgum. (*Birmingham Medical Review*, October 1879.)

8. ROSER, W.—Upon Congenital Dislocation of the Hip. (*Archiv für Klin. Chirurgie*, 1879, Band xxiv.)

9. SCHAFFER, NEWTON M.—Pott's Disease; its Pathology and Mechanical Treatment, with Remarks on Rotary Lateral Curvature. (New York, Putnam's Sons.)

10. SCHAFFER, N. M.—The Hysterical Element in Orthopædic Surgery. (*Archives of Medicine*, Dec. 1879.)

11. Subcutaneous Osteotomy, Discussion on.—Meeting of British Medical Association at Cork, August 1879. Papers by W. ADAMS, W. MACEWEN, R. W. PARKER, T. JONES, B. E. BRODHURST, R. BARWELL, and F. J. GANT. (*British Medical Journal*, August 30, 1879.)

1. *Barwell on the Etiology of Hip-Joint Disease.*—

Mr. Barwell (*Lancet*, August 21, 1879) is convinced that genital irritation (phimosis in male children, vaginitis in female children) plays an important part in the etiology of hip-disease. Of a series of 100 boys with morbus coxæ, 83 had phimosis, 11 a very long prepuce, and only 6 had a quite normal prepuce. Mr. Barwell made inquiries of Mr. Morratt Baker concerning the practice of the Evelina Hospital, which is much frequented by Jews, and learnt from Mr. Baker that hip-disease is proportionally more

common among Christians than among Jews. Hip-disease, according to Mr. Barwell, is more common among boys than girls. The genital irritation acts on the hip in a reflex manner, through the lumbar spinal cord.

2. *Berry on a Case of Lateral Curvature of the Spine treated by a New Method.*—Two attempts having been tried unsuccessfully at maintaining extension by means of Sayre's jacket, Dr. Berry obtained Dr. Duncan's permission to try the following treatment. The patient was a boy, aged 9. Two large pieces of extension plaster were applied over the whole of the back, on each side of the spine (straightened at the time by extension in the recumbent position), and reaching well round the sides to the front of the ribs. Having found that by pulling on the ends of the plaster the spine could be easily straightened, a plaster-of-Paris jacket was then applied according to Sayre's method, into which was incorporated a steel splint differing from the jury-mast used by that surgeon, in having a cross-bar at the level of the shoulders which was capable of being lengthened by means of a rack and key, instead of the ordinary headpiece. After the plaster-jacket had set, the ends of the extension plaster were brought round the horizontal bar, and tightly sewn in position. On then screwing up the splint to a height which fell short of causing the patient any inconvenience, extension was applied to the skin of the back, the counter-extension being distributed over the pelvis through the jacket. The shoulders were at the same time drawn back to the cross-bar, and maintained in that position by means of a turn or two of bandage. The results appear to have been most encouraging, although the patient is still under treatment. The author urges that attention should be paid to the following points. 1. The direction of extension should lie in a plane as close as possible to that of the back. 2. The shoulders should be braced back. 3. The splint should be screwed up at least once a day. The paper is illustrated.

8. *Roser on Congenital Dislocation of the Hip.*—Roser (*Archiv für Klin. Chirurgie*, Band xxiv) says that congenital dislocations of the hip are caused by an abnormal posture of adduction during foetal life. He shews also that, when the posterior part of the capsule in a normal body is cut, adduction easily produces dislocation, while abduction easily reduces it. Further, he says, that congenital dislocation of the hip occurs rarely in boys, because the strongly adducted hip produces a pressure on the testicle, which again reacts in a reflex manner upon the lower extremity. Hence, a constrained intra-uterine position from deficiency of liquor amnii causes in girls dislocation of the hip, but in boys, talipes. The treatment he recommends consists in fixing the limb for some time in a posture of abduction by means of a plaster-of-Paris bandage.

9. *Shaffer on Pott's Disease.*—In his work on this subject, Dr. Shaffer differs from those who believe that Pott's disease is traumatic in its origin, and hence quite easily cured. Mechanical treatment should not be used with a view to entirely overcoming the muscular resistance, for it cannot be entirely annulled by any mechanical device; and, moreover, he has in some cases seen suspension aggravate the lesion, increase the subsequent muscular resistance, and intensify the pain. He holds that the change produced by suspension is apparent rather than real, and that the increase in height noticed is due to the extensibility of the unaffected structures, and the modification of the unaffected curves. [The reporter

has, however, repeatedly demonstrated by tracings taken with a strip of tin, that the angle of a Pott's curvature itself opens out during suspension, unless bony ankylosis has taken place.—*Ref.*] Recumbency in the prone position for a few moments will produce all the 'separation' required to cause a diminution of the injurious pressure on contact of the vertebral bodies. The author advocates the use of the antero-posterior support according to his own method. He says it acts scientifically upon the principle of the lever with the fulcrum at the point of disease; it is easy of adjustment, comfortable to the patient, can be readily removed at any time by placing the patient in the prone position, does not interfere with respiration or transpiration, and finally is clean and light. The plaster-jacket, on the other hand, is believed to be objectionable because it is heavy and dirty, it covers a great area of skin, is apt to cause excoriations that may not be discovered, it requires the patient to be suspended at every change or removal of the dressing, and fails in the majority of cases to accomplish the objects for which it is applied. He states, moreover, that it can only be of advantage in cases of disease below the seventh dorsal vertebra. [The author thus practically ignores the horizontal modes of applying Sayre's case, practised by Walker, Willett, and others; also the value of the jury-mast, the convenience, in suitable cases, of the poroplastic case, and the invariably clear signs which a threatened excoriation presents to both patient and surgeon.] Noticing lateral curvature, he denies to it a mere mechanical causation, and ascribes to it a specific pathological cause. He lays stress upon the occurrence of reflex muscular spasm as a symptom of spinal disease.

CHARLES B. KEETLEY.

ANATOMY.

RECENT PAPERS.

1. ALLEN, W.—On the Varieties of the Atlas in the Human Subject, and the Homologies of its Transverse Processes. (*Jour. of Anat. and Phys.*, vol. xiv, part 1.)
2. ANGELUCCI.—On the Formation and Development of the Uveal Tract in Vertebrates. (*Centralblatt für die Med. Wissensch.*, 1879, p. 417.)
3. BUDGE, A.—A further Communication on the Sap-Canals in Hyaline Cartilage. (*Arch. für Mikr. Anat.*, Band xvi, 1878.)
4. COOK, E.—Note on Logwood Staining Solution. (*Jour. of Anat. and Phys.*, vol. xiv, part 1.)
5. DOBSON, G. E.—Case of Development of Hair on the Eyeball of a Dog. (*Ibid.*, p. 143.)
6. EGOROW, W.—On the Nerves of the Lungs. (*Centralblatt für die Medicin. Wissensch.*, May 1879.)
7. FLEMMING, W.—A Study of the Nucleoli of Cells and the changes produced in them by the Chromates. (*Ibid.*, 1879, p. 401.)
8. FLOWER, W. H., and GARSON, J. G.—On the Scapular Index as a Race Character in Man. (*Jour. of Anat. and Phys.*, vol. xiv, part 1, p. 13.)
9. FREUD, S.—Note on a Method of Anatomical Preparation of the Nervous System. (*Centralblatt für die Medicin. Wissensch.*, No. 26, 1879.)
10. GAREL, J.—Researches on the General Comparative Anatomy and the Morphological Signification of the Glands of the Gastric and Intestinal Mucous Membrane of Vertebrate Animals. (*Thèse de Lyon*, 1879.)
11. GIBSON, G. A., and MALET, H.—Presternal Fissure uncovering the Base of the Heart. (*Jour. of Anat. and Phys.*, vol. xiv, part 1.)
12. KLEIN, E.—A Contribution to the Knowledge of

the Structure of Cell-Nuclei, and of the Manifestations of Life in the Gland-Cells. (*Centralblatt für die Medicin. Wissensch.*, Aug. 26, 1879.)

13. LATTEUX.—On Microscopy in its application to the study of the Hair in the Human Race. (*Bulletin de la Soc. d'Anthrop.*, tome xii, 2nd series, 2nd fasc.)

14. LAULANIE.—On Subperiosteal Ossification, and particularly on the Mechanism of the Formation of the Haversian System in Periosteal Bone. (*Compt. Rend. de l'Acad. des Sciences*, Feb. 1879.)

15. LÖWE, L.—On the Fibres of the Peripheral Nerves.

16. MERKEL, FR.—A new method of investigating the Central Nervous System. (*Arch. für Mikros. Anat.*, Band xiv, No. 4.)

17. NIGATE, W.—On the Distribution of the Nerve-Fibres in the Optic Chiasma. (*Arch. de Physiol.*, p. 658, 1878.)

18. ORD, W.—Malformation of the Genital Organs of a Man, with Persistence of one of the Ducts of Müller. (*Brit. Med. Jour.*, 1879, vol. ii, p. 697.)

19. OSLER, W.—Case of Congenital and Progressive Hypertrophy of the Right Upper Extremity. (*Jour. of Anat. and Phys.*, vol. xiv, part 1.)

20. PFEUFFER, PH.—The Action of Pepsin and Trypsin on the Elastic Fibres of the Ligamentum Nuchæ. (*Arch. für Mikros. Anat.*, Band xvi.)

21. RANVIER, L.—On a new substance of the Epidermis; and on the Process of Cornification in the Epidermic Covering. (*Comp. Rendu de l'Acad. des Sciences*, June 30, 1879.)

22. RENAUT, M. J.—On Hæmatoxylic Eosine, and its Employment in Histology. (*Ibid.*, May 1879.)

23. SCHLEICHER, W.—The Division of the Cells of Cartilage. (*Arch. für Mikrosk. Anat.*, Band xvi.)

24. TURNER, W.—Description of a Cleft Sternum. (*Jour. of Anat. and Physiol.*, vol. xiv, part 1.)

25. WATSON, M.—The Homology of the Sexual Organs illustrated by Comparative Anatomy and Pathology. (*Ibid.*, p. 50.)

26. WEIGERT, C.—Bismarck Brown as a Colouring Agent. (*Arch. für Mikrosk. Anat.*, Band xxv.)

1. ALLEN on the Varieties of the Atlas, and the Homologies of the Transverse Processes in Man.—

The author finds that the variations of this bone are not confined to any particular part of it, but are chiefly found in the transverse processes, and, next in frequency, in the posterior arch. In the former the most constant arrangement is for the foramen for the vertebral artery to be situated at the base, and for the two elements of each process to fuse together much more intimately than in the vertebræ lower down. The anterior element of the process passes downwards and outwards, while the posterior, which is the true transverse element, passes directly outwards, with, in some cases, a slight upward tendency, and the common extremity ends in a rough ridge directed obliquely downwards and forwards. The same obliquity occurs in the axis, but is in exactly the reverse direction to that of the bifid extremity of the transverse processes of the typical cervical vertebræ, with the exception of the seventh. The variations which may be found are these. The anterior element may be absent, leaving the foramen open in front, and the artery protected externally by a large tubercle. The posterior element, although it may vary in size, is, to Dr. Allen's knowledge, never absent. Sometimes it is unusually large, and when long may be bifid. Increase in length in an upward direction may cause a bridge-like expansion of bone to extend inwards to the external edge of the superior articulating surface, forming a foramen through which the anterior division of the first cervical nerve passes, a condition which is constant in ruminants. In two instances, the author has found a process passing up-

wards to the jugular process of the occipital bone. In one of these cases after passing upwards it was directed inwards, producing a deep notch in which lay the anterior division of the suboccipital nerve. In the other, the process was in the form of a round vertical pillar with an oblique groove round its middle, which indicated the original formation of the pillar from two parts, which at first articulated by opposed oblique surfaces, but afterwards became fused, as were also the surfaces of the atlas and occipital condyles. This articulation between the atlas and the occiput is analogous to the articulations between the lumbar transverse processes of solipeds and the lateral masses of the sacrum. In the human subject, the variation of the posterior arch may be in the form of increased or of deficient development. The posterior tubercle may be enlarged and form a prominent spine, either single or bifid. Very rarely small articular facets may be found between the lamina and the edge of the occipital bone, which circumscribe the foramen magnum posteriorly. A spicule of bone often arises behind the groove for the vertebral artery and suboccipital nerve, crosses those structures, and abuts against the posterior part of the superior articulating surface. Deficient development is often seen as a gap between the lateral halves of the arch. One-half of the posterior arch may be absent, but this generally occurs when adhesion exists between the atlas and the occipital bone. A case has also been found where the arch crosses the middle line, but presented a gap posterior to the lateral masses of one side: the posterior arch was altogether deficient in this case. Besides cases of abnormalities in one part, there are others in which variations extend over several parts. Under this head may be mentioned fusion with neighbouring bones, deficient development of both anterior and posterior arches, and deficiency of the posterior arch, with the rest of the bone somewhat altered in shape. In regard to the homology of the transverse processes, the author says that, although the anterior part of those processes in the typical cervical vertebra is now regarded as the homologue of a rib, this part in the atlas and axis has a somewhat different morphological significance, which can be seen by surveying the dry bones in conjunction with their attached soft parts. If the series of cervical intertransverse muscles be traced upwards towards the head, it will be seen that, while the posterior intertransverse muscles pass between the tips of the posterior row of tubercles of all the cervical vertebræ, and are continued up to the head by the rectus capitis lateralis, the anterior muscular slip passes in the lower part of the region between the anterior tubercles; but on tracing the series upwards, the continuity with the axis is seen to be effected by a muscular slip which passes, not to the extremity of the tip of the transverse process, but to a rough mark in front of the superior articular surface. A similar slip of muscle is continued up from this roughness, passing across the front of the atlanto-axial articulation to a corresponding roughness in front of the anterior root of the allanto-transverse process, and this muscle is in its turn continued up to the head by the rectus capitis anterior minor. From this it may be seen, that the portions of bone to which these muscular slips are attached are homologous. The body of the rib is, in the atlas and axis, represented therefore by the roughness in front of the anterior portion of the transverse process of these vertebræ, the anterior portion of the transverse process beyond being homologous with the spicule of bone extending in the typical cervical vertebræ between the anterior and pos-

terior tubercles; in other words, representing the elongated rib-tubercle found in the crocodilia. Further proof of this is to be found by observing the exit of the anterior division of the spinal nerves, which in the lower cervical region appear between the anterior and posterior intertransverse muscles, and in the atlas between the rectus capitis lateralis and anterior minor muscles.

2. *Angelucci on the Formation and Development of the Anterior Uveal Tract of the Vertebrata.*—The membrane of Descemet has been considered by some writers as forming, outside the processes of the iris, a system of trabeculae, which form the internal wall of the canal of Schlemm. This canal is regarded as a lymph-sinus in communication with the anterior chamber. Angelucci has come to the conclusion that the space of Fontana is not a lymphatic tract in the ordinary sense, but the most posterior portion of the anterior chamber; that the canal of Schlemm is a venous plexus; that there does not exist a lymph-tract between the space of Fontana and the canal of Schlemm, nor any free communication between the anterior chamber and the anterior ciliary veins, as admitted by Schwalbe, Waldeyer, and Heisrath. The canal of Petit does not exist as a physiological space, but is an artificial production, as maintained by Merkel against the assertions of Schwalbe and Iwanoff. The early stages of embryonal development of these parts is not identical in birds and mammals. In the former the primitive cerebral vesicle, before the formation of the primary ocular vesicle, is in direct contact with the cornea, whereas in the latter a mesodermic layer is interposed. When the ocular vesicle is formed it is, in the birds, in immediate relation to the ectoderm, but a little before the invagination of the latter for the production of the crystalline lens, there appears between the ectoderm and the vesicle a thin homogeneous layer destitute of cellular elements. In the rabbit this homogeneous substance, devoid of cells, is formed at the cost of the mesodermic layer, between the ectoderm and the primitive ocular vesicle. In both cases, the homogeneous layer constitutes the first form of the vitreous body. Notwithstanding the diversity of the original appearance, the vitreous body can be considered in the two cases as representing the intercellular substance of the mesoderm. The intimate adherence of the zonule and the vitreous substance during the embryonal period, is an evidence that the canal of Petit does not exist in reality. The cornea proper of Kessler belongs to the middle layer. The formation of the space of Fontana coincides with the development of the anterior chamber. The canal of Schlemm is produced by a prolongation of the sclerotic vessels.

3. *Budge on the Sap-Canals in Hyaline Cartilage.*—By using an injection of asphalt dissolved in chloroform, turpentine, or benzoline, the author has been able to establish not only the existence of canaliculi, but also their course, their arrangement, and even their relation to the fundamental substance and to the capsules. He has also studied the effects of some reagents on the fundamental substance, and finds that, although it gives the appearance of small notchings which break the external border of the capsules, at which the points of origin of the sap-canals should be, nevertheless it is not sufficient to demonstrate their existence any more than artificial digestion, or the other methods do. Slow and careful desiccation, however, gives better results as the canals assume the appearance of those of the enamel of the teeth. In fine, the proper structure of the cartilage

of the cephalopoda is reproduced in the hyaline cartilage of the higher animals. The author supposes that the canals communicate with lymphatics. The nutrition of hyaline cartilage, he says, is carried on through these canals.

4. *Cook on Logwood Staining Solution.*—In this paper, the author describes the chemical action of logwood on tissues, and how staining is produced. He also points out some of the errors that have been made in making logwood solution. He shows that tissues previously hardened in chromic acid do not stain nearly so well as they would do if immersed in the fresh state. With a slightly modified solution of logwood, however, tissues previously so treated can be readily stained. The formula he recommends is six parts of extract of logwood, six parts of alum, one part of sulphate of copper, and forty parts of water. All the ingredients must be perfectly free from iron. The alum, logwood extract, and sulphate of copper should be ground in a mortar, and when powdered sufficiently a little water should be added so as to form a thin paste. This is to be left for one or two days, during which time it requires to be stirred occasionally and finally filtered. The hæmatin of the logwood will be retained by the filter with the dirt. A crystal of thymol may be added to the filtered solution to preserve it from mould. Fresh or alcohol hardened tissues may be stained with this solution after sufficient dilution, but for chromic acid hardened tissues eight drops of the solution should be diluted with 120 drops of water, and a drop of a tenth per cent. solution of bichromate of potass must be added just before using. If a larger quantity of bichromate of potass be added, the tissues will be stained an ugly yellow, and if the mixed solution be kept many hours it will decompose to some extent. Tissues stained in logwood may be mounted in glycerine or Farrant's solution, or in dammar. In the two former they keep unchanged for any length of time, but in the latter they are apt to fade unless care be taken in preparing them for the dammar to render them perfectly free from water by absolute alcohol before being brought into contact with oil of cloves. If any moisture be left, fading will soon commence, and the preparations will be spoiled.

5. *Dobson on Development of Hair on the Eyeball of a Dog.*—The author records an instance where he found a triangular patch of hair, similar in every way to that on the animal's face, situated on the margin of the cornea, and filling up the space between that structure and the outer canthus. Owing to the projection of hair the eyelids could not be closed, and during night the lachrymal secretion trickled down from the outer canthus. The interest of the case consists in its being a very clear demonstration of the homology of the conjunctiva with the integument of the body, showing how accurately the relations of this structure have been worked out by embryologists.

6. *Egorow on the Nerves of the Lungs.*—These researches were made in Chronsztzewsky's laboratory. The large nervous branches which penetrate the lung of the frog are formed of fibres without myeline, but there are occasionally found fibres with myeline. The fibres divide dichotomously into smaller branches, which approach the alveoli. The large branches possess ganglionic enlargements formed of nerve-cells, and an extra covering where the branches arise, and often at the points where they cross the alveolar walls. The smaller branches also possess their ganglionic elements, formed as a rule by a prolongation of the sheath of Henle. The cells

of the larger branches have a distinct envelope, which is derived from the neurolemma, and which sometimes presents an epithelioid layer. The small cells have a clearly reticulated structure, and enclose some clear spots with no precisely defined outlines. On the side opposite the nucleus they send off a nervous fibre, mostly destitute of myeline, around which there is often a second fibre rolled spirally. Besides these completely developed elements, there are others which are imperfectly developed of a circular or oval form. The nerve-fibres with a myeline covering pass between the walls of the alveoli without forming a proper network; it is not till they have lost their myeline that they enter into the plexus, and terminate finally in the muscular fibres of the alveolar walls. These fibres give off filaments which form a covering for the spots. They, dividing dichotomously, form a primary plexus of large meshes, whence arise some fibrillæ which form a secondary network, which ramifies in the muscular layer under the epithelium of the alveoli. The other fibres form themselves into an adventitious tunic, and afterwards into a smaller covering for the vessels over which they form a network.

8. *Flower and Garson on the Scapular Index as a Race-Character in Man.*—Attention was recently called to the form of the scapula in man by Prof. Broca, of Paris, who, in a recent number of the *Bulletin* of the Anthropological Society of Paris, tabulated the principal differences in the shape of the bone in man and a considerable number of the mammalian series. This is done by establishing an index or numerical expression of the proportion between its length and breadth, and between the breadth of the bone and length of the infrapinnous plate; the former is called the scapular index, the latter the infrapinnous index. Broca showed that, among the mammalia, man has exceptionally low indices. He also showed that in different races of men the indices vary considerably; but, as the materials at his disposal were not sufficient, he was unable to establish a satisfactory index for various races, with the exception of Europeans and perhaps Negroes. The scapular index of the former he found, after measuring several skeletons, to be 65.91, and the infrapinnous index 87.79; while the scapular index of the latter he found to be 68.16, and the infrapinnous 93.88. In other words, the length of the scapula compared to the breadth is less in the Negro than it is in Europeans, which, as far as can be judged, is a sign of degradation, and an approach to the form of the bone found in the anthropomorphous apes. In their paper, Prof. Flower and Dr Garson have followed up these observations by tabulating the scapular and infrapinnous indices of man and of the anthropomorphous ape, from skeletons contained in the magnificent collection of the museum of the Royal College of Surgeons, under their charge. They find that the indices of European scapulæ are 65.20 and 89.40 respectively, a result very nearly corresponding to that obtained by Broca. They have also shown that the scapular index of the Andamanese is 69.8, and the infrapinnous index 92.7; and those of the Australians are 68.9 and 92.5 respectively; but of these latter, as of several other races, there did not exist a sufficient number upon which to found any certain data, although the very close relation between the Australians and Andamanese in several respects indicate that those figures most probably are pretty accurate. Finally, they have given the indices of the scapulæ of the chimpanzee, the gorilla, orang-outang, and gibbon, all of

which correspond more or less closely with the indices stated by Broca.

11. *Gibson and Malet on Presternal Fissure uncovering the Base of the Heart.*—In this paper, Dr. Gibson and Mr. Malet describe a very interesting case of cleft sternum which lately came under their observation. The subject of the deformity is a strong muscular man twenty-one years of age. A distinct depression occupies the superior sternal area, and opens above into the neck as a deep fossa between the clavicles and sterno-cleido mastoid muscles. The floor of this depression moves slightly with the respiration, and there is marked pulsation in the left lower portion. Examination shows that this depression is due to the complete absence of the bony chest-wall, the want of which is partially compensated for by the existence of a strong membrane stretched across the fossa. The lower part of the fissure, from the lower border of the third to the upper border of the fourth rib, is occupied by a dense membrane or cartilage presenting a crescentic border superiorly. The ensiform cartilage is divided into two spines, of which the left is rudimentary, but the right about two centimètres long. The clavicles are strong and well formed. The origins of the sterno-mastoid, sterno-hyoid, and sterno-thyroid muscles are attached to each sternal division. The authors have made several very careful investigations regarding the sounds of the heart and the mode in which it contracts, and have figured several tracings of its impulse in the non-osseous space, which are very interesting and instructive, especially from a physiological point of view. From their observations, they show that the emptying of the ventricles coincides with the filling of the arteries. With regard to the particular part of the heart which is the cause of the pulsation, they state that it appears to be due to the *conus arteriosus*, for at this point the aorta is too deeply placed, and the auricles too far off laterally, to become prominent. It is interesting to note that the interference with central union has also extended to the abdominal parietes. The man has a strip of skin extending upwards from the umbilicus for nearly eight centimètres, in all of which distance it is attached to the abdominal wall, and expands into a fan-like bundle of wrinkles. The presence of the presternal fissure shows that in this instance the union of the lateral halves from above downwards described by Rathke has not occurred in the normal order of succession.

15. *Löwe on the Position of the Fibres in Peripheral Nerves.*—The author bases his theory on the difference in colour which he has observed in embryonal nerves of rabbits subjected entire to the action of carmine and examined under the microscope. The results of his observations show that the sensory fibres of a mixed nerve are never stained so deeply as the motor fibres. He has repeatedly observed that the facial nerve is less strongly coloured by the carmine than the auditory nerve, which lies in close relation to it. This he believes to be caused by the two nerves being different in function, and containing nerve-fibres of different kinds. The author considers that the sensory fibres are always placed externally on the anterior branches of mixed nerves, although they are situated internally on the posterior branches. These differences of colour are due to the greater affinity of certain fibres for carmine, and to the presence of a greater number of nuclei. The author asks, without solving the question, if these characters are only transitory, and due to a difference in relative development of the sensory and motor fibres.

In the encephalon of the embryo, the differences of tint analogous to those of which he speaks undoubtedly distinguish sensory from motor regions, as in the white and grey matter of the brain, the former of which is lightly stained by carmine, while the latter takes on a much deeper tint.

16. *Merkel on a New Method of studying the Central Nervous System.*—The author formerly employed a liquid known in commerce as Brönner's water (*Brönnerisches Fleckwasser*) for rendering clear sections of the central nervous system; he has recently found that that liquid owes its properties to the presence of xylol. He recommends the sections to be prepared by putting them first into absolute alcohol, and afterwards into xylol. By treating them in this manner, he finds that the preparations are rendered perfectly transparent, and that the axis-cylinder and ganglion-cells appear extremely bright and clear.

18. *Ord on Malformation of the Genital Organs of a Man, with Persistence of one of the Ducts of Müller.*—Dr. Ord showed a preparation at the Royal Medical and Chirurgical Society last October, taken from the body of a man who died in St. Thomas's Hospital, in which there was a tube originating in a blind sac at the head of the right kidney, and ending, without organic connection with any other structure, in the median line of the floor of the prostatic urethra, by a patulous orifice, placed just above those of the ejaculatory ducts. The testis on the same side was undescended, and the vesicula seminalis on the same side was incompletely developed, but pervious. The external genitals were perfect, except as regards the position of the right testis. A small glandular structure was found capping the right kidney, but separated from it by a fibrous septum; this gland was also in contact with the end of the blind tube. The gland had the structure of a renal organ, with evidence of contraction and degeneration. He suggested that the tube was the right Müllerian duct, arrested in an early stage of its retrogression, and that the gland represented a parallel stage of the Wolffian body.

19. *Osler on Congenital and Progressive Hypertrophy of the Right Upper Extremity.*—Hypertrophy of one extremity or of one side of the body is of very rare occurrence, and cases have only been met with and reported by continental writers, with the exception of that of Mr. Adams, reported in the *Lancet* in 1858. The case recorded in this instance by Professor Osler occurred in a girl nearly nine years of age. The enlargement seems to have existed from birth, but had been passed over almost unnoticed for some time, till the great disparity in the size between the two hands attracted attention. When the case came under the observation of the author, the limb looked like that of a medium-sized man. The enlargement extended to the muscles of the shoulder, namely, the deltoid, pectoralis major and trapezius, although to a less extent in the latter; the sterno-cleido-mastoid muscles, however, were of equal size. The right arm measured from the tip of the acromion to the styloid process of the radius 42 centimètres, whereas the left was only 37 centimètres, making a difference of five centimètres in the length of the two arms. The right humerus measured 3.1 centimètres longer than the left, so that the difference between the forearms must have been 1.9 centimètres in favour of the right. The clavicles did not vary more than they frequently do on the two sides of the body of a normal person. The circumference of the right arm, with the biceps extended, was 18.5 centimètres, while that of the left, with the muscle in the same state, was 15.6 centi-

mètres. When the biceps was strongly flexed, the right arm measured 20.3 centimètres, and the left 15.9 centimètres. The circumference of the right forearm in its thickest part was 21.2 centimètres, while the left measured only 17 centimètres; the right wrist measured 15.5 centimètres in circumference, while the left was only 3.5 centimètres. Similar variations were found in the measurements of the hands, the right being larger than the left, in the same ratio that the right arm was larger than the left. The biceps was very strongly developed, as were all the muscles of the humerus. The right forearm showed a marked contrast to the child-like appearance of the left. The fingers were kept in the semi-flexed position, but all except the middle finger could be extended at will. The power over the fingers which the patient possessed seems to have been only gradually acquired by use, and the fingers were much more flexed when the patient was younger. The grip of the two hands was very marked, that of the right being much more powerful and strong than that of the left.

21. *Ranvier on a New Substance of the Epidermis and on Cicatrisation of the Epidermic Covering.*—On the surfaces of epidermis coloured by picrocarmine there appear, between the mucous body of Malpighi and the granular layer, two accessory layers, of which the deeper is called by Langerhaus, the *stratum granulosum*, and the more superficial, *stratum lucidum*. The former is formed by cells containing granulations, sometimes of real drops of a substance to which the author gives the name of *eledine*, and which is strongly coloured red by carmine. In the latter—*stratum lucidum*—these same drops are found, but free and spread sometimes in a layer over the surface. The formation of the *eledine* is gradual, as in a glandular process; it commences in the deep layers, attains its maximum in the superficial layers of the *stratum granulosum*, and, lastly, infiltrates the *stratum lucidum*. The disappearance of this substance in the granulated layer would indicate that it plays an important part in cicatrisation of the epidermis.

24. *Turner on Cleft Sternum.*—In this paper, Professor Turner describes a specimen of cleft sternum in the Anatomical Museum of the University of Edinburgh. The specimen was obtained by the late Professor Hughes Bennett from a patient in the Royal Infirmary. The sternum is completely divided into two lateral halves, each of which articulates with the clavicle and with the cartilages of the seven true ribs. Each half is subdivided into a præ-, a meso-, and a xiphi- sternum. The xiphisternum is cartilaginous, but the other segments are ossified, though the articulation of the præsternum with the mesosternum is not converted into bone. The two lateral halves are each 12 centimètres (4 inches) long, and of almost the same shape and size. The two præsterna and mesosterna are separated by a wide gap; but opposite the articulation of the fourth pair of costal cartilages the two mesosterna begin to incline inwards towards the mesial plane, and on a line with the seventh pair of costo-sternal joints, they articulate with each other. The articular surfaces are coated with encrusting cartilage, and are retained in contact by a capsular ligament and by synovial membrane. When the two halves of the sternum are drawn most widely asunder, the interval between them is 6.4 centimètres at its widest part, opposite the two halves of the manubrium, and here the gap is not filled up by any membrane; but, at and below a line on the level of the second pair of costal carti-

lages, a strong fibrous membrane fills up the interval. This membrane is attached laterally to the inner border of each half of the sternum, where it is continuous with the periosteum. Below it is continuous with the intersternal joint ligament, while above it has a free border.

25. *Watson on the Homology of the Sexual Organs, illustrated by Comparative Anatomy and Pathology.*—This interesting and important paper was read before the Medical Society of Manchester last spring. As it was, however, the subject of a leading article in the LONDON MEDICAL RECORD for November last, it is unnecessary to do more than mention it, and state the various headings under which Professor Watson treated the subject. The comparative anatomy of the mammalia throws much light on human anatomy and pathology also, as we find in many of the lower animals structural arrangements which, although constant and normal in them, are only found occasionally and as abnormalities in the human subject. In comparisons of this kind, it is always found that, however differentiated a structure or organ may become in man, or in any specialised group of animals, there is always a tendency to return to the primary form. The author distinguishes two portions of the generative organs in each sex, an internal and an external; including in the former all those parts which lie internal to or above the junction of the sexual and urinary passages; and, in the latter, those which lie external or below that point. According to this arrangement, therefore, he first describes the development of the internal organs in man, states the variations that may be found, and shows how some of them may be explained, and what they represent in other mammalia. Among the modifications that occur, he gives examples of an uterus being found in male animals, of transverse dismemberment of the uterus and vagina in the male, of absence of transverse severance of the uterus and vagina in the female, and he shows how coalescence of the Müllerian ducts may be illustrated by comparative anatomy and by human pathology. He mentions instances where an uterus of large size has been found in the human male, the Wolffian ducts have remained persistent in the females of animals, and vasa deferentia been found in the human female. Then proceeding to the external organs, he sketches their development in man, their comparative anatomy and their homologies, as shown by abnormal arrangements in the human male. He then treats of the comparative anatomy of the external female organs, and points out the parallel arrangements in the human female. Finally, the paper is concluded by some remarks upon hermaphrodites. J. G. GARSON, M.D.

OBSTETRICS AND GYNÆCOLOGY.

RECENT PAPERS.

1. BAIARDI, D.—Primary Sarcoma of the Vagina. (*Annali di Ostetricia, Ginecologia, e Pediatria.*)
2. BLODGETT, A. N., and WING, C. E.—On Malignant Degeneration of a Fibroid Tumour of the Uterus.
3. BRIGIHI and BANTI.—Cystomyoma of the Uterus. (*Lo Sperimentale*, Oct. 1879.)
4. GILLETTE, W. R.—A Successful Case of Laparo-Elytrotomy. (*American Journal of Obstetrics and Diseases of Women and Children*, Jan. 1880.)
5. GOODELL, W.—A Case of Extra-Uterine Foetation. (*New York Medical Record*, Jan. 31, 1880.)
6. HICKS, J. BRANTON.—Cases of Lateral Obliquity of

the Pregnant Uterus. (*Obstetrical Journal of Great Britain and Ireland*, Feb. 1880.)

7. KISCH, H.—On the Value of Iodoform in Gynaecological Practice. (*Berliner Klinische Wochenschrift*, No. 52, 1879.)

8. LIZÉ.—Researches on the Obstacles to Delivery of the Trunk after the Birth of the Foetal Head. (*Annales de Gynécologie*, Feb. 1880.)

9. MANGIAGALLI, L.—Death during the Lying-in from Air in the Veins. (*Annali di Ostetricia, Ginecologia, e Pediatria*, Jan. 1880.)

10. MURPHY, P. G.—On Chloasma Uterinum, or Pigmentation of Pregnancy. (*Obstetric Gazette*, Cincinnati, Jan. 1880.)

11. PARONA, F.—Two Rare Cases of Uterine Cancer. (*Annali di Ostetricia, Ginecologia, e Pediatria*, Jan. 1880.)

12. REAMY, J. A.—The Immediate Operation for Laceration of the Female Perineum. (*Obstetric Gazette*, Cincinnati, Jan. 1880.)

13. SPIEGELBERG.—Castration of Women. (*Breslauer Aerztliche Zeitschrift*, No. 23, 1879.)

14. VERRIER.—Elephantiasis of the Clitoris. (*Gazette Obstétricale*, No. 24, 1879.)

15. WALDENSTRÖHM, J. A.—Successful Ovariectomy. (*Upsala Läkareförenings Förhandlingar*, Band xiv, No. 5, 1879.)

4. Gillette on a Successful Case of Laparo-Elytrotomy.—The patient was a primipara, aged 23. She was 4 ft. 4 in. high. There was no foetal heart to be heard, auscultation revealing only the general crackling and hissing of air in the uterine cavity, such as may be heard in those so-called cases of emphysematous uterus which depend on the decomposition of a dead foetus from which the waters have drained off for a long time. On digital examination, the inferior strait was found to be capacious and expanded, and allowed the introduction of the whole hand. The conjugate at the brim was, however, only $1\frac{1}{2}$ in. in diameter. After consultation with Drs. Nicoll and McLeod, it was determined to at once perform laparo-elytrotomy. The usual incision was made along the right Poupart's ligament, the vagina cut open upon a sound passed into it, and the incision enlarged by laceration. The hæmorrhage was not serious. The os was dilated manually as much as possible, but was hard and rigid, and it was therefore slightly incised by a curved scissors. Dr. McLeod then drew the uterus over to the left, and the application of the forceps to the presenting head was attempted. This was impossible, owing to the position of the foetus, jammed down by the spastic rigidity of the anteverted uterus against the iliac and pubic bones, with the head and face flaccid upon and against the right shoulder. Dr. Gillette then got hold of a leg, and applied the blunt hook and delivered the limb. It was now impossible to bring through the trunk without destroying the continuity of the leg. He therefore performed craniotomy, hoping to be able to push the diminished head out of the way. This was impossible, for the contraction of the uterus was so great, that upon traction the flaccid yielding body of the dead foetus only doubled the more and jammed more tightly. He tried to bring down the left foot, but could not reach it. He then applied the cephalotribe, crushed the base of the cranium, pushed the presenting leg up, and delivered without difficulty. The placenta immediately followed, together with the foetid grumous discharges that were pent up behind the decomposing foetus. The uterus contracted at once, and there was no hæmorrhage. The wound in the flank was stitched with eight silver sutures, and dressed with adhesive plaster and cotton batting over all. The bladder was

not wounded, as was the case in four out of the seven previously reported operations. The patient recovered. The operation was not performed antiseptically. This operation is the eighth that has been performed in the interests of antiseptic surgery. In four of the eight cases the mothers have recovered.

5. Goodell on Extra-uterine Fætation.—Dr. Goodell had passed the sound the normal length into what he took to be the uterus. This, with other signs, led him to regard the case as one of extra-uterine fætation. One point alone shook his diagnosis, namely the muscular contractions which he was able to feel in the presumed extra-uterine cyst. This led him to wait for events a few days before proceeding to open the abdomen and extract the child. His patient fell into labour four days later, and was delivered of a small living child, *per vias naturales*. He afterwards very carefully examined the womb, and found it to be a uterus bicornis, or two-horned womb. In one horn the ovum had developed, into the other he had passed his sound.

7. Kisch on the Use of Iodoform.—Dr. Kisch uses solution of iodoform 1 part, glycerine 10 parts, and 6 drops of oleum menthe piperite, with success in all forms of chronic metritis, in catarrhal and hypertrophic conditions of the mucous membrane of the cervix and uterus, and in ulcerations. It is also useful in chronic inflammatory affections of the pelvic peritoneum and cellular tissue.

8. Lizé on Obstacles to Delivery after Birth of the Foetal Head.—The different obstacles enumerated by Dr. Lizé are: narrowness of the vulva, contraction of the inferior pelvic strait, the simultaneous presence of the head and a foot outside the vulva, accidental shortness of the umbilical cord, displacement or vicious position of one of the arms, absence of rotation of the shoulders, anomaly in the rotation of the trunk or of the shoulders or head, increased diameter of the shoulders, and the presence of a second foetal head above the one outside the vulva.

10. Murphy on the Pigmentation of Pregnancy.—Dr. Murphy saw at the sixth month of gestation a delicately framed lady with light hair, clear grey eyes, prominent forehead, small nose and mouth, with regular features and intellectual expression, who had patches of dark brown pigment extending from the roots of the hair, across the forehead, and down the cheeks. The entire surface was of a dusky olive brown, resembling the bronze colour in Addison's disease. All parts of the body examined presented the same general appearance, mottled, with dark patches in places, and then fading off at irregular intervals. There were much nausea and weakness, and the question of inducing premature labour was discussed. At the eighth month a living male child was born, weighing only 2 pounds 2 ounces. With much care it survived, and only weighed 7 pounds at the age of three months. The mother convalesced fairly. Her skin, which before pregnancy was fair, still presented traces of pigmentation, and the dark splotches were plainly discernible. Dr. Murphy is of opinion that the pigmentation depends upon irritation of the sympathetic nervous system, resulting in catarrh of the intestines, preventing assimilation and causing mal-nutrition.

13. Spiegelberg on Castration.—The author considers the operation of the removal of both ovaries indicated—1. When both ovaries are diseased and occasion severe disturbances which cannot otherwise be subdued, and which have become intolerable; 2. When the unsexing of the patient is likely to relieve her from severe menorrhagia or dysmenorrhœa,

the removal of both healthy ovaries is justifiable. He admits that the mortality from the operation is high, and quotes Hegar, who, in a paper in the *Centralblatt für Gynäkologie* (see page 83), gives statistics shewing a death-rate of 32 per cent. in forty-seven collected cases. In forty-two cases operated upon by Hegar himself, seven died, or 15 per cent.

FANCOURT BARNES, M.D.

SYPHIOGRAPHY.

RECENT PAPERS.

1. CESBRON.—On Muscular Syphilitic Contraction. (*Thèse de Paris*, Delahaye, and *Journal de Médecine et de Chirurgie Pratiques*, November 1879.)
2. NAUNYN.—Syphilis of the Central Nervous System. (*Berliner Klinische Wochenschrift*, 1879, p. 407.)
3. WAGNER.—Early Antiseptic Treatment of Buboos. (*Breslauer Aerztl. Zeitschrift*; and *Centralblatt für Chirurgie*, No. 34, 1879.)
4. HIGGINS.—Periodic (Syphilitic) Neuralgia. (*Philadelphia Med. and Surg. Reporter*.)
5. SULLIVAN, J.—Gelseminum in Gonorrhoea. (*Western Lancet*.)
6. DENIS-DUMONT, M.—Crapulous Tibialgia.
7. MORGAN, E. C.—Laryngeal Syphilis. (*Virginia Medical Monthly*, Oct. 1879.)

1. *Cesbron on Syphilitic Muscular Contraction*.—M. Cesbron, in his thesis, has brought together a certain number of facts relating to a comparatively little known affection, syphilitic muscular contraction. They concern those contractions which manifest themselves in the course of syphilis, without appreciable lesion of the contracted muscle and the constituent parts of the region. This affection is met with in the secondary period of syphilis, sometimes also in the tertiary period, or at the same time as the so-called transitory symptoms. It may show itself in different muscles, in the masseters, in the gastrocnemius; but its favourite habitat is the brachial biceps, for which reason it has been termed, by M. Mauriac, bicipital myopathy. In this case, as M. Cornil has stated, it shows itself by stiffness of the elbow-joint, and the impossibility of complete extension of this joint. If this extension be increased, the biceps, which extends itself, is contracted, and opposes itself to movement. Gradually the extension movement becomes more and more limited, and the fore-arm remains bent over the arm at a varying angle, from the obtuse to a very acute angle. The movements of the articulation are thenceforward very restricted, but the movements comprised in the limited angle of extension are readily performed. It is a question of a contraction of the biceps, which is not to be got over, and produces sharp pain when extension is forcibly made; but there is nothing wrong in the joint. Palpation shows that the tendon of the biceps is hard and stretched like a cord, and that the muscle itself assumes the rounded form which it puts on when it contracts. Patients suffer at the same time, to a variable extent, and the seat of the pain is found either at the level of the elbow-bend, or at the circumference of the olecranon; in the lower limb, pain occupies the popliteal space, and the upper extremity of the gastrocnemii. The general phenomena observable at the same time are ruled by the syphilis; but it is not uncommon to find pains appear simultaneously in some joints. Likewise, in

a certain number of cases, cold has appeared to be the occasional cause in the production of this contraction. Syphilitic contraction presents somewhat considerable differences in its progress; it never constitutes a very serious affection, but may last a long time, sometimes even for years. Thus the treatment is very important, for its action is as quick in this as in other syphilitic manifestations. Mercury should be used when the contraction shows itself at an early stage, and the iodide of potassium when it puts in a later appearance.

2. *Naunyn on Syphilis of the Central Nervous System*.—At a meeting of the Königsberg Association for Scientific Medicine (*Berliner Klin. Wochens.*, 1879, p. 407), Dr. Naunyn discussed sixty cases in which the history of the patients had been accurately noted. Eight had been examined *post mortem*. No exostoses (which during life are frequently set down as the cause of brain-symptoms in syphilis) were found. On the other hand, gummata in the brain-substance, subdural gummata softening as a sequela of endarteritis, with or without consecutive thrombosis, and simple softening, were ascertained to be present. Brain-symptoms frequently belong to the earlier manifestations of the disease. Naunyn has frequently seen it within the first year. Heubner's assertion, that intellectual and active men are particularly liable to this form of disease, does not appear to be borne out by Naunyn's experience. In general, it may be said that young persons are especially liable to syphilis of the brain. That there are any specific peculiarities about the disease, excepting the paralysis of the ocular muscles and pain in the head, Naunyn cannot admit. The only characteristic point is that the usual symptoms occur in the young instead of the old. An important diagnostic point is the absence of symptoms pointing to compression (*stauungspapilla*, etc.) The usual symptoms are those pointing to a centre of disease; hemiplegia was common in Naunyn's cases, together with paralysis of the ocular muscles in many instances, which, as is known, rarely occur in ordinary hemiplegia. Epilepsy is not uncommon. Charcot's assertion that hemi-epilepsy is particularly characteristic of syphilis, is not borne out by Naunyn's experience. He has never seen a case. Paraplegia occurred in eight cases out of the sixty; once the group of symptoms pointed to hemiplegia spinalis. The prognosis of brain-syphilis is, according to Naunyn, always doubtful. The number of cases which entirely recover is very small. In any case, however, the prognosis is more favourable than when the same symptoms are due to any other cause. Naunyn uses mercurial inunctions, and only employs iodide of potassium occasionally.

3. *Wagner on Early Antiseptic Treatment of Buboos*.—Wagner (*Centralblatt für Chirurgie*, 1879, No. 34, from *Breslauer Aerztl. Zeitschr.*) recommends, as the result of his experiments, the early opening of buboes with careful observance of Lister's antiseptic method, provided the diagnosis is clearly made out of an actual inflammation, not merely an enlargement of the glands. Wagner not only recommends all buboes to be taken out which are suppurating, but even those which are much swollen. The result is extraordinarily satisfactory.

4. *Higgins on Periodic (Syphilitic) Neuralgia*.—Some cases of obstinate neuralgia are of syphilitic origin. Dr. Higgins (*Philadelphia Med. and Surg. Rep.*) recently reported one to the Toledo

(Ohio) Medical Association. It was of a man suffering from pain in the right sciatic nerve, recurring periodically every day at the same hour. He treated it with quinine and anodynes for ten days, when he remembered that he had treated the same man some years previously for syphilis, the symptoms being hyperæsthesia of the scalp, nocturnal pain, and tibial node. The patient had had a sore twenty years before. There was no paralysis. He put him on the iodide of potassium, which relieved him within four days.

5. *Sullivan on Gelseminum in Gonorrhœa.*—In the *Western Lancet*, Dr. J. Sullivan extols gelseminum as an unfailing remedy in the early stage of active gonorrhœa. The fluid-extract should be given four times a day, after meals and at bed-time, beginning with six or eight drops and increasing two drops every dose up to twenty drops, or until the patient experiences its peculiar intoxication, when it should be continued in smaller doses, as much as can be easily tolerated for a few days, or till the discharge becomes lighter or disappears. An eighth of a grain of morphia is sometimes advantageously added to each dose. Saline purgatives, rest, and abstinence, are essential parts of the treatment. After the acute stage has passed, copaiba and the oil of sandal-wood will soon complete the cure.

6. *Denis-Dumont on Crapulous Tibialgia.*—M. Denis-Dumont, in a work on syphilis, calls attention to a new diagnostic sign of syphilis, to which he gives the above name. Tibialgia, according to this author, reveals the infection of syphilis as much as does the famous 'ganglionic pleiad' of the nape of the neck, and is a very valuable condition for diagnosis at all periods of the disease, above all, at the outset. It suffices, he says, in fact, to press more or less lightly at the junction of the two superior thirds of the tibia with the inferior, to provoke characteristic pain. This symptom, which is probably allied to periosteal irritation, has often been more or less recognised, but according to M. Denis-Dumont it is infallible, and it may probably obtain more attention than it has yet received.

7. *Morgan on Laryngeal Syphilis.*—Dr. Ethelbert C. Morgan, late assistant to Prof. Schnitzler, of Vienna, in the department of diseases of the throat and lungs, adds a contribution to the study of laryngeal syphilis (*Virginia Medical Monthly*, October 1879). His conclusions, which he bases on more than a hundred cases examined or treated by himself, are arranged under the following heads. *Statistical.* Six per cent. of laryngeal diseases, are of a syphilitic nature, and 4.8 per cent. of patients who have contracted syphilis, have ulcerative or other syphilitic affections of the larynx. *Causation.* After mentioning the causes of laryngeal ulceration, as syphilitic laryngitis, mucous patches, gummata, etc., and the exciting causes of the localisation of such lesions, as vocal exertion, alcohol, tobacco, or simple acute laryngitis, he discusses the local communicability of secondary syphilis, and mentions a case where infection had been communicated by a throat-mirror which had been previously used to examine patients with secondary pharyngeal lesions. *Period of Incubation.* Laryngeal syphilis may precede, be concomitant with, or follow pharyngeal and cutaneous lesions; or it may be the sole secondary manifestation following the chancre, cutaneous and other lesions being absent. The time which elapses between inoculation and the appearance of laryngeal syphilis varies from three months to fifteen

years, five months being the mean period. Three to eight years is the minimum, and twelve the maximum period of time which elapses between the primary and tertiary lesions. *Symptoms.* After discussing the ordinary symptoms of hoarseness, aphonia, muco-purulent, foetid, and blood-stained expectoration, etc., Dr. Morgan calls especial attention to pain in the ears when the ulceration is on the arytenoid cartilages, ventricular bands, or epiglottis, the pain corresponding to the side affected. This symptom, however, is not peculiar to syphilitic ulceration. He remarks that acute œdema, with its attendant danger to life, is generally preceded by a rigor or chill. *Diagnosis.* The laryngoscopic appearances of the various syphilitic lesions, in the milder forms of laryngeal syphilis, are in most respects identical with those of catarrhal laryngitis; so that a diagnosis, even with the history of the patient, is very difficult. As regards the diagnosis between syphilitic laryngeal disease, cancer, and phthisis, Dr. Morgan considers that local symptoms are not pathognomonic of these diseases, and that a diagnosis between them, founded upon the typical ulcer, or typical seat of such ulcer, is unreliable; while a history of the patient, and a thorough and careful examination of the pharynx, genitals, skin, lymphatics, and lungs are indispensable. The following points are mentioned as aids in the differential diagnosis of syphilitic, phthisical, and cancerous ulceration. In syphilis, the ulceration is on the free border of the epiglottis, from which it may extend to the arytenoid cartilage, epiglottis, and vocal cords; in phthisis it frequently first attacks the neighbourhood of the arytenoid cartilage; in cancer it nearly always occurs on the left side, and on the left superior vocal cord. In syphilis there is not much thickening, but loss of tissue is a distinctive sign; in phthisis more or less uniform thickening always precedes the ulceration; in cancer there are many buds or growths which appear rapidly, become very large, and often bleed. In syphilis the mucous membrane is a dull mottled red; in phthisis pale and anæmic, afterwards grey; in cancer livid, etc. The *Complications* of laryngeal syphilis are œdema, laryngeal phthisis, with its resulting ulceration, laryngeal paralysis, laryngo-stenosis, and abscess. The *Duration* of syphilitic laryngeal erythema is usually from five to ten weeks. The advanced forms of the disease are chronic and of long duration. There is great disposition to relapse. The treatment that Dr. Morgan found most successful was that practised by Dr. Schnitzler, of mercurialising, the patient as quickly as possible; in the later stages large doses of iodide of potassium in conjunction with local applications. Under treatment, a larynx which has undergone most extensive destruction may so far improve as hardly to show any lesion. Cicatrices even may become almost imperceptible. In superficial syphilitic laryngitis, accompanied by erosions, mucous patches, and light ulceration, inhalations of bichloride of mercury are very useful. The following is the formula used by Schnitzler: R. Mercury bichloride, grs. iiss.; alcohol, f. ʒij; water, ʒviii. M. From 4 to 6 drachms to be inhaled from the steam atomiser daily. For more extensive ulcerations iodo-glycerine is applied as follows: R. Iodine, grs. viii; potassium iodide, ʒi; glycerine, ʒj. M. Absolute rest of voice and abstinence from tobacco should be insisted upon. Acute œdema is generally relieved by two blisters placed one on each side of the larynx, space being left between them in which to

perform tracheotomy if required. If these means fail, a strong solution of chromic acid, one part to two or four of water, often immediately succeeds in reducing the swelling. In chronic œdema, insufflation of iodoform in powder, gum arabic, and sugar of lead give good results; or the application of iodoform and glycerine, thirty grains of the former to an ounce of the latter. With regard to tracheotomy, 76 per cent. is the rate of success. The cannula should be removed as early as possible after tracheotomy; the longer it remains, the more difficulty will there be in dispensing with it. In order to prevent relapse, the patient should be left without treatment for an entire month; then a teaspoonful of liquor hydrargyri perchloridi is given during the first eight days of every month, and fifteen grains of iodide of potassium during the last eight days. This treatment is to be continued one year. W. J. WALSHAM.

OPHTHALMOLOGY AND OTOLOGY.

OPHTHALMOLOGY.

RECENT PAPERS.

1. SCHÖELER.—Experimental Study of the Escape of Fluid from the Eye. (*Graefes Archiv für Ophthalmologie*, Band xxv, Heft 4.)
2. GUDDEN.—The Decussation of the Optic Nerve Fibres in the Chiasma. (*Ibid.*, Band xxv, Heft 4.)
3. BECKER.—Spontaneous Pulsation of the Retinal Artery in Basedow's Disease. (*Klinische Monatsblätter für Augenheilkunde*, Jan. 1880.)
4. WICHERKIEWICZ.—The Use of Ice after Extraction of Cataract. (*Ibid.*, Jan. 1880.)
5. ANGELUCCI.—Thrombosis of the Central Vein of the Retina. (*Ibid.*, Jan. 1880.)
6. KRENCHEL.—Peculiar Case of Amblyopia. (*Ibid.*, Feb. 1880.)
7. NIEDEN.—Four Cases of Coloboma of the Sheath of the Optic Nerve without additional Fissure in the Uveal Tract. (*Archives of Ophthalmology*, vol. viii.)
8. KNAPP.—Two Cases of Foreign Bodies within the Eye. (*Ibid.*)
9. MULES, P. H.—A Rare Form of Intra-ocular Growth, probably Sympathetic. (*Ibid.*)
10. KNAPP.—A Case of Paresis of the Ocular Muscles from Coal-Gas Poisoning. (*Ibid.*)
11. KNAPP.—A Case of Severe Iritis and Glaucoma following Iridocyclitis. (*Ibid.*)
12. VON EVETSKY.—The Development of the Eye. (*Ibid.*)
13. BOUCHERON.—Intra-ocular Myotomy in Sympathetic Neuralgia. (*Gazette Hebdomadaire de Médecine*.)
14. HIRSCHBERG.—The Pathological Anatomy of Sympathetic Ophthalmia. (*Archiv für Ophthalmologie*.)
15. KINES.—The Pathology of Glaucoma. (*Ibid.*)
16. SCHWABEL.—Glaucoma and Iridectomy. (*Archiv für Augen- und Ohrenheilkunde*.)
17. WEBER.—The Uses of Physostigmin in Diseases of the Eye. (*Archiv für Ophthalmologie*.)
18. WECKER.—Drainage in Glaucoma. (*Ibid.*)
19. ROBERTSON, ARGYLL.—Trepining in Glaucoma. (*Ophthalmic Hospital Reports*.)
1. Schoeler on the Escape of Fluid from the Eye.—Professor Schoeler (*Archiv für Ophthalmologie*, Band xxv) has confirmed, by means of a new method of experimenting, Leber's discovery that the aqueous humour escapes through the ciliary region. He produced eschars upon various parts of the surface of the globe by the actual cautery (a red-hot curved knitting needle), and by means of the manometer measured the internal pressures and the rates at which fluid escaped from the globe. He experimented upon the dead human subject, and upon rabbits under chloroform, and after death. An eschar upon any part of the surface caused an immediate rise of internal pressure proportionate to the area affected, accompanied in the living eye by ophthalmoscopic signs of pressure on the retina. This was for the most part due to the contraction of the cauterised tunics; no diminution in the rate of escape of fluid from the globe occurred except when the ciliary region was the part cauterised. In the latter case, a very marked retardation was invariably observed. Occlusion of the vortex veins alone produced no such retardation. Cauterisation of the optic nerve entrance produced no retardation; moreover, a prolonged injection of fluid under high pressure failed to indicate the existence of any channel of exit in this situation. The manometrical measurements invariably indicated an equality of pressure in the aqueous and vitreous chambers. The impermeability of the cornea (Leber) was demonstrated afresh in these experiments. [The support which these results give to the so-called mechanical theory of glaucoma is obvious.—*Rep.*]
2. Gudden on the Decussation of the Optic Nerve Fibres in the Chiasma.—Professor Gudden (*Archiv für Ophthalmologie*, Band xxv) supplements his previous valuable communications on this subject by recording an examination of the retina, nerves, chiasma, and tracts from a woman, aged 73, whose right eye had been blinded four years previously by glaucoma. The right retina exhibited absolute atrophy of the fibre-layer; the disc was deeply cupped. The left eye was healthy. The right nerve was uniformly grey, the left white. The right tract appeared normal to the naked eye; the left was smaller than the right, and presented a grey discoloration over its whole ventral surface, with the exception of the upper (anterior) edge. This grey portion could be traced into a depression in the chiasma indicating the situation normally held by the decussating fibres, while the white portion was seen to join the nerve of its own side, passing across its root and applying itself to its median surface. Sections made with the microtome confirmed this distribution. The atrophic parts were distinguished from the healthy by the action of carmine, which stains with an intensity proportionate to the absence of true nerve-substance. In the right tract, which to the naked eye had appeared healthy, the carmine revealed a well marked atrophic portion corresponding to the healthy portion of the left tract. The margins of the atrophic and non-atrophic portions were gradually intermingled rather than sharply defined. The appearances are well illustrated by figures. The well established fact of the semi-decussation of the optic nerves receives additional confirmation from this case.
3. Becker on Spontaneous Pulsation of the Retinal Artery in Basedow's Disease.—Among 16,000 hospital and 5,600 private patients seen during a period of six years, Professor Otto Becker (*Monatsblätter für Augenheilk.*, Jan. 1880) met with seven uncomplicated and well-marked cases of Basedow's disease. Spontaneous pulsation of the retinal artery was absent in one only. Four of the patients were unmarried women, aged 27, 31, 37, and 42. Two

were married women, of whom the one had borne one, the other two children. The married as well as the unmarried showed strong symptoms of hysteria. The seventh was a male, aged 41. The retinal pulsation was absent only in the unmarried woman, aged 31. Becker has pointed out in a former communication that such pulsation is occasionally met with in apparently healthy persons. Whilst due in certain cases to a peculiar arrangement of the vessels, it probably depends in others upon atony of the vascular wall. Among chlorotic girls, one does not seek for it long without finding it. Becker has seen it in ten such, and attributes it to local and temporary vaso-motor paralysis, and cites in support the following case. A lady, aged 48, the mother of three children, had not menstruated since her last confinement fifteen years ago, and had suffered, meanwhile, from a variety of explicable and inexplicable nervous symptoms. She consulted Dr. Becker many times as to subjective troubles of the eyes. One day he discovered marked spontaneous arterial pulsation in the left eye, not perceived previously. Eight days later this pulsation had totally disappeared. Again, eight days later it had reappeared, and this time in both eyes. No cardiac lesion existed, and there was no complaint of palpitation. Her medical attendant had observed the appearance from time to time of blueish-red patches of varying size upon different parts of the body, involving sometimes the half of the upper extremity, which lasted sometimes only a few minutes, sometimes hours or even days, and then disappeared; obviously a vaso-motor disturbance. Dr. Becker concludes that in Basedow's disease, also, the spontaneous arterial pulsation is due to this cause. The fact that it is not present in every case and at all times accords with the frequent absence or disappearance of one or other of the symptoms in this disease.

4. *Wicherkiewicz on the Use of Ice after Extraction of Cataract.*—Dr. Wicherkiewicz (*Monatsblätter für Augenheilkunde*, Jan. 1880) advocates the employment of iced compresses over the closed lids in many cases of cataract. In cases uncomplicated by any other defect in the eye, or by any misadventure during the operation, he uses the ordinary dressings; in all other instances (unless there have been an escape of vitreous humour) he dresses as follows. After careful cleansing of the wound and conjunctiva, followed by instillation of atropine, he lays over the lids a large oval fold of linen dipped in a 5 per cent. solution of carbolic acid; over this a linen compress cooled on ice is lightly laid, and replaced by a fresh one every few minutes without removal of the carbolised fold. A moistened fold of linen covers the sound eye also. A single such application, lasting one to two hours after the operation, is usually sufficient. In case of pain or irritation it is repeated after six or eight hours, and, in unfavourable cases, it is intermitted only for a few hours during the night. In the intervals of the ice application an antiseptic bandage is applied as follows. A carbolised fold of linen is laid as before over the closed lids; over this boracic wadding to the level of the orbital margin; and, around all, a gauze bandage, moistened in a 5 per cent. solution of carbolic acid. About thirty cases have been thus treated, of which three are given in detail. Incidentally, Dr. Wicherkiewicz relates how, when an assistant in the clinic at Wiesbaden, he witnessed an uninterrupted series of successful extractions throughout nearly a whole year, and then, *without ascertainable cause*, came

several losses in succession, and this in spite of the introduction, a short time previously, of the one and a-half per cent. carbolic spray in cataract extraction'. [Have we as yet any sufficient evidence that disasters after extraction are usually of septic origin, or that antiseptic dressing increases the percentage of successes?—*Rep.*]

5. *Angelucci on Thrombosis of the Central Vein of the Retina.*—Dr. Angelucci (*Monatsblätter für Augenheilkunde*, Jan. 1880) records a case, the symptoms of which, although similar in some respects to those attributed to embolism of the central artery, were produced, in his opinion, by thrombosis of the vein. The results of thrombosis have probably not seldom been ascribed to embolism (Zehender). In this, as in other veins, thrombosis occurs in two forms; the degenerative form associated with the general arterial sclerosis or atheroma of old people, and the phlebotic form as frequent, at least, in the young as in the old. Thrombosis of the central vein of the retina causes sudden impairment or loss of sight. The retinal vessels become tortuous; the arteries may be partially, but are never completely, emptied of blood; the veins are overfilled. Both arteries and veins may, however, at first be reduced, and in places emptied, by reason, probably (as in phlegmasia alba dolens), of acute oedema. The final results are retinal hæmorrhage, and atrophy of the nerve.

6. *Krenchel on a Peculiar Case of Amblyopia.*—Dr. Krenchel of Copenhagen records this case. (*Monatsblätter für Augenheilkunde*, February 1880.) The patient was a sailor, aged 33. Twelve months previously, when in South America, he had had yellow fever, with temporary loss of sight. He now complained of mistiness of vision, so great as to entirely incapacitate him for work; he considered himself half blind, and hardly dared to walk alone in the streets. The discs were somewhat white, and the visual fields showed some peripheral contraction; but, inasmuch as the visual acuity tested by Snellen's types was almost exactly normal, the perception of colour good, and the fields of considerable size, the complaints appeared unjustifiable, and were attributed to exaggeration, until a sight of the man groping his way in the street proved them genuine. An examination with Masson's disc (see Gräfe and Sämisch's *Handbuch*, vol. ii, page 35) explained the paradox. Whereas the healthy eye detects with ease a difference of $\frac{1}{125}$ in the illumination of different circles of the revolving disc, this patient could not detect a difference of less than $\frac{1}{10}$. Hence, though black letters upon white paper, even in the smallest type, were legible to him, objects presenting less difference in illumination, e.g., the stones of the pavement, and even great irregularities in the ground, provided they gave no dark shadows, were indistinguishable. The usual remedies for amblyopia were employed, but without benefit.

PRIESTLEY SMITH.

7. *Nieden on four Cases of Coloboma of the Sheath of the Optic Nerve without additional fissure in the Uveal Tract.*—The author (Knapp's *Archives*, vol. viii, No. 4) gives particulars of four cases of the above rare affection. A careful study of these cases leads him to the conclusion that the closure of the fissure of the choroid and that of the optic nerve are entirely independent of each other. Defective development can ensue in the one without fissure of the optic nerve disc, as shown by the numerous cases of choroidal and iridochoroidal coloboma on record. Conversely, a disturbance of development in the optic nerve may take place, when the secondary ocular vesicle has closed completely.

8. *Knapp on two Cases of Foreign Bodies within the Eye.*—H. Knapp relates these cases in his *Archives* (vol. viii, No. 4). The first occurred in a boy, aged 13, who was brought to him with symptoms of circumscribed iridocyclitis. The lower part of the iris was swollen and discoloured, and the pupil sluggish and irregular. The inferior portion of the anterior chamber was occupied by an oblong grayish brown nodule, which reached to the margin of the cornea. The vitreous body was hazy, and its anterior portion occupied by a white patch, from which a number of thread-like offshoots radiated into its substance. The lower part of the ciliary region was sensitive to touch, and the field of vision was contracted superiorly. $S = \frac{1}{20}$. The diagnosis of the presence of a foreign body was made, but there was no scar or opacity of the cornea visible, while the possibility of anything having entered the eye was denied by the patient. Eventually, however, a history was obtained of injury from an explosion of a gun-cap, ten months previously; and, relying on his original diagnosis, the author determined to operate. With a narrow-bladed cataract-knife, a small opening was made at the lower part of the sclero-corneal junction, and dilated with strabismus scissors, so as not to interfere with the pustule. The foreign body hook was then introduced, and the point made to penetrate deeply through the sinus of the anterior chamber from one side to the other. In withdrawing the instrument, a small black body was brought out in its concavity. It measured two millimètres (0.08 inch) in its greatest diameter, and had a metallic lustre under the microscope. The case terminated in every way satisfactorily. Seven weeks after the operation, tension was normal, and sight $= \frac{2}{20}$. The author considers that, as a routine practice, it is better, in removing foreign bodies from the sinus of the anterior chamber, to remove also a portion of iris, so as to lessen the risk of anterior synechia. In this case, however, the iris was not mutilated, nor did any adhesions form, showing that the above rule need not always be followed. The second case is interesting from the great length of time (six years) during which a foreign body remained in the eye. An operation was performed for cataract consequent on an injury in 1872, and during the next six years the condition of the eye was such as to cause no uneasiness to the patient, though for a few days at a time, it would occasionally become slightly inflamed. In 1879, however, a severe attack of inflammation set in, accompanied by nightly exacerbations of pain, by achrymation and photophobia. The globe was in consequence enucleated, and at the junction of the pars plicata and nonplicata of the ciliary body was found an oblong piece of metal three millimètres (0.12 inch) in length, covered with a thin layer of fibrous tissue, 'and scarcely fastened to the place upon which it rested'. The author thinks it probable that the piece of metal, which struck the eye six years previously passed through the cornea, iris, lens, and vitreous body, and became encapsuled in the retina. Here it remained for six years, until, becoming detached, it fell on the ciliary ligament and produced the severe attack of inflammation which rendered removal of the eye necessary.

9. *Mules on a Rare Form of Intra-ocular Growth, probably Sympathetic.*—P. H. Mules relates this case in Knapp's *Archives*, vol. viii, No. 4. The patient was a cachectic woman, whose right eye had been removed three years before for constant pain following injury. The second eye subsequently became the seat of a tumour which necessitated enucleation.

On examination, this growth, which was stony-hard, was found to consist essentially of hypertrophied scleral tissue; and hence, in all probability, the case was one of slow inflammatory thickening of the coats of the eye, due to sympathetic irritation. The author considers this condition as a very rare form of sympathetic disease, the more peculiar in having commenced ten months after the removal of the first globe for pain.

10. *Knapp on a Case of Paresis of the Ocular Muscles from Coal-Gas Poisoning.*—H. Knapp (*Archives*, vol. viii, No. 4) relates the case of a man, aged 27, who had been nearly asphyxiated by an escape of carbonic oxide gas, from a defective stove in his bed-room. When found, he was unconscious; and though the cerebral symptoms soon disappeared, the ocular, viz., paresis of the six muscles of each eye, continued. There were also photophobia and marked presbyopia, necessitating convex glasses for reading. In the right eye, $S = \frac{20}{20}$; in the left $\frac{2}{20}$. He presented in a marked degree the phenomenon of dissociation between the elevators of the upper lids and the elevators of the eyes. During the first week after the accident, the patient had been unable to raise his eyes, and there had been marked divergent strabismus. The case was treated by galvanism, but without success; subsequently, Turkish baths and prismatic glasses to correct the muscular insufficiency were ordered. After four weeks, the insufficiency increasing, and the diplopia becoming more troublesome, tenotomy of the right rectus externus, followed at an interval by that of the left, was practised. At the date of the report, ten months after the asphyxiation, the dynamic divergence and the paresis of accommodation were both reduced, but the dissociation between the elevators of the lids and those of the eyes was still present. At no period of the case could any abnormal appearances be detected with the ophthalmoscope. The author believes that this case is unique, there being no other on record of a paralytic affection of the ocular muscles induced by carbonic oxide poisoning. Paralysis, however, of other muscles in various parts of the body is known to have been produced by such a cause, and is probably to be explained by cerebral congestion, or by the presence of small apoplectic clots. In this case, the ocular muscles were alone affected.

11. *Knapp on a Case of severe Iritis and Glaucoma following Iridenceleisis.*—The author narrates (Knapp's *Archives*, vol. viii, No. 4) a case of acute iritis with subsequently glaucoma, following on iridectomy performed in a case of zonular cataract. He attributes the untoward symptoms in this case entirely to the strangulation of small portions of iris in the wound, and to the presence of anterior synechiæ. He holds that too much care cannot be taken in iridectomy to leave every portion of iris perfectly free, 'a clean and simple iridectomy furnishing the safest artificial pupil'.

12. *Von Evetsky on the Development of the Eye.*—This paper (Knapp's *Archives*, vol. viii, No. 4) is a carefully written monograph on the subject of which it treats. The author's conclusions are in the main the same as those generally accepted; but he differs from many in holding that the lids have no relation whatever from the point of view of development with the margin of the cornea. He also differs from most observers in his account of the eyelashes, and in his explanation of the mechanism of coloboma. The paper is well illustrated, and is a valuable contribution to the embryology of the eye.

LITTON FORBES.

13. *Boucheron on Intra-ocular Neurotomy in Sympathetic Neuralgia.*—Boucheron (*Gaz. Hebdomadaire de Méd.*) proposes to substitute neurotomy of the optic and ciliary nerves for enucleation of the bulb in cases of sympathetic ophthalmia, where the latter may be indicated. He has never performed it on human beings, but only on dogs, rabbits, and the dead subject, in the following manner. The conjunctiva and the capsule of Tenon are divided about one centimètre from the corneal margin, between the rectus superior and rectus exterior; scissors, bent on the flat, are introduced between the bulb and the capsule of Tenon. The bulb is seized with a tenaculum, near the cornea, and drawn out; the optic nerve is put on the stretch, and is divided, as well as the ciliary nerves and postciliary arteries. The hæmorrhage is trifling. In order to be sure that the ciliary nerves have been divided, the incision in the capsule of Tenon needs to be enlarged, and the sclerotic seized with another tenaculum; then by a slight rotation the entire posterior surface of the bulb can be brought into view, and completely inspected. Experiments on animals convinced M. Boucheron that there is no danger of suppuration; the cornea and media remain clear. Clinical experience taught the same results after injuries of the optic and ciliary nerves. Schweigger has also recently advocated the same proceedings. It must not be forgotten that divided, or even excised nerves, frequently unite again, and that thus the object of the operation may not be attained, and that all half measures such as this, leaving a ragged and deformed stump, are especially uncertain and dangerous.

14. *Hirschberg on the Pathological Anatomy of Cases of Sympathetic Ophthalmia.*—Hirschberg (*Arch. für Ophth.*; and *Jahresbericht der Ophthalmologie*) gives an anatomico-pathological description of four enucleated eyes, which had caused sympathetic ophthalmia. One case was that of a man on whom, ten years previously, extraction of a calcareous cataract had been performed, with total loss of sight. The other eye suffered from violent neuralgia, which subsided after enucleation of the blind eye, the examination of which revealed a detachment of the posterior part of the ciliary body and the anterior part of the choroid from the sclerotic, and a funnel-shaped elevation of the retina from the choroid. There was an abundant incrustation of calcareous matter on the posterior part of the retina, and a beginning of ossification of the choroid. In another case, a girl, aged 9, had her right eye injured by a knife; this was followed eight months later by sympathetic irido-cyclitis. Only tardy improvement of the sympathetic ophthalmia followed the enucleation of the right eye. Examination of the removed eye demonstrated detachment of the ciliary body from the sclera by a gray translucent neoplasm and swelling of the papilla.

15. *Knies on the Pathology of Glaucoma.*—Knies (*Arch. für Ophth.*, and *Jahresbericht*) reports the result of his anatomical examination of glaucomatous eyes. The appearances found in fifteen forms of glaucoma are described. As important and constant results are cited the changes in the region of the canal of Fontana; the periphery of the iris is adherent to the membrane of Descemet, the canal of Fontana is obliterated, and the surroundings all cell-infiltrated. This obliteration of the space of Fontana has been noticed before, and supposed to be caused by increased tension. That it is not a mere mechanical pressure of the periphery of the iris or the cornea, is demonstrated by the presence of an intervening adhesive

substance. An inflammatory process must therefore be assumed, which accounts also for the infiltrations adjacent to the canal of Schlemm; sometimes also of the corpus ciliare, and of the subconjunctival tissue. An inflammation in the sclero-corneal region, where the chief outlet of the aqueous fluid of the eye is supposed to be, must necessarily increase ocular tension. By the obliteration of the space of Fontana, Knies accounts for all the cardinal symptoms of glaucoma, the haziness and anæsthesia of the cornea, iridoplegia, the flattening of the anterior chamber, the limited accommodation, and the venous scleral hyperæmia. Without insisting that glaucoma is only an obliteration of the canal of Fontana, he maintains that the changes in the surroundings of the canal of Schlemm constitute some of the main features.

16. *Schwabel on Glaucoma and Iridectomy.*—Schwabel (*Arch. für Augen- und Ohrenheilkunde*; and *Jahresbericht*) develops his views of the pathology of glaucoma and the effect on it of iridectomy. He sets out from the fact that the glaucomatous turbidity of the refracting media is caused solely by an opalescence of the cornea; a turbidity in the corpus vitreus is not demonstrable. The opalescence of the cornea is central, superficial; it leaves the epithelium intact; never suppurates; disappears suddenly, certainly after iridectomy, without subsequent haziness. During its existence, colours of the rainbow are seen. (This must be distinguished from another periodical obscuration for which the eye furnishes no objective cause, and which does not improve after iridectomy.) The above-mentioned periodical haziness of the cornea is not of an inflammatory nature, but must be considered as a consequence of a neurosis. Pains in glaucoma are not the expression of an inflammatory process; they come and go quite suddenly; they appear occasionally in advance of inflammation; they may even precede a glaucoma; they must be regarded as a simple neuralgia. Even in inflammatory glaucoma, pains are manifestations of an independent neurosis. Increased tension is not pathognomonic of glaucoma alone. Excavation of the optic papilla may occur without an increase of tension of the bulb. Iridectomy does not change the intra-ocular pressure in the normal eye; it increases the inflammation in an inflamed eye, and leads often to disastrous results. But when one sees how promptly, as if by magic, pains, turbidity of cornea and tension are relieved by iridectomy in a glaucomatous inflamed eye, the conclusion is irresistible, by analogy at least, that it acts like neurotomy in neuralgia. He concludes that glaucoma is necessarily a neurosis of the fibres of the trigeminus, but whether the sympathetic is implicated is yet doubtful.

17. *Weber on the Uses of Physostigmin in Diseases of the Eye.*—Weber (*Arch. für Ophth.*, and *Jahresbericht*) publishes his experience of the therapeutic value of physostigmin in various diseases of the eye, which he says increases the tension in the vitreous space and diminishes it in the anterior chamber. It acts in direct antagonism of atropia, which in a healthy eye lowers the tension in the vitreous space and raises it in the anterior chamber. He, therefore, recommends physostigmin in keratocele, in conical cornea, in ulceration of the cornea, as highly advantageous. In glaucoma, he found physostigmin very useful, and explains its effect, that by the contraction of the pupil the detachment of the ciliary margin of the iris from the periphery of the cornea is effected, and the filtration of the fluids of

the eye through the canal of Fontana is rendered possible, and thus tension is diminished.

18. *Wecker on Drainage in Glaucoma*.—Wecker (*Arch. für Ophthal.*, and *Jahresbericht*) recommends drainage as a remedy to promote filtration of the humours of the eye in certain cases of glaucoma. It is indicated in cases where iridectomy would be difficult and dangerous, as in glaucoma absolutum with atrophied iris; in hæmorrhagic glaucoma: or where tension did not sufficiently yield to a well performed iridectomy. The relaxation after introduction of the gold drainage-thread is permanent, though it may have been left in a short time only.

19. *Robertson on Trephining in Glaucoma*.—Dr. Argyll Robertson (*Ophthalmic Hospital Reports*) recommends trephining of the sclerotic in glaucoma where iridectomy may not be practicable, or has not been successful. He removes a circular piece, one millimètre in diameter, in the region of the posterior origin of the ciliary processes. He uses Bowman's corneal trephine for that purpose. The hiatus is generally filled up by a new loose texture, which acts like a safety-valve against a renewal of the intra-ocular pressure. He performed the operation three times; however, one only was permanently successful.

OTOLOGY.

RECENT PAPERS.

1. BROWN, G.—Removal of Foreign Bodies from the Ear by the Hamular Method. (*Lancet*, December, 1879.)

2. RICHEY.—A Case of Reproduction of the Membrana Tympani. (*American Journal of Otology*, Jan. 18, 1880.)

3. GRUBER.—Necrosis of the Temporal Bone. (*Monatsschrift für Ohrenheilk.*, Oct., 1879.)

4. KNAPP.—Condylomata of the External Auditory Meatus. (*Zeitschrift für Ohrenheilkunde*, Band viii, Heft 2; *Monat. für Ohrenheilkunde*, Oct. 1879.)

5. McKEOWN, W.—The Application of Collodion to the Membrana Tympani in various Diseases of the Ear. (*Brit. Med. Jour.*, Dec. 27, 1879.)

1. *Brown on Removal of Foreign Bodies from the Ear by the Hamular Method*.—A diagram illustrates the instrument, devised by Mr. Gardiner Brown (*Lancet*, December 1879, p. 940). It resembles an ordinary nævus-needle with a properly formed hook at the end. As the peculiar conformation of the osseous meatus renders it almost impossible for any foreign body to fit it tightly at every part of its line of contact, advantage is taken of this fact to insinuate the needle beyond the foreign body, with its flat surface against the superior wall of the meatus; the handle is then elevated, and the curve of the instrument more or less flattened, by pressure against the upper wall. [In the *Lancet*, December 1874, p. 797, Dr. Cleland directed the needle to be placed *below* the foreign body and showed that, as soon as the point was insinuated so far as to form, when depressed, an inclined plane with the roof of the meatus, the foreign body must roll out with the greatest facility.—*Rep.*]

R. NEALE, M.D.

2. *Richey on Reproduction of the Membrana Tympani*.—Dr. S. O. Richey reports a case of the above (*American Journal of Otology*, Jan. 1880) being the sixth in which he has obtained reproduction of the membrana tympani. In only one out of seven cases of destruction of the membrane, has he failed to obtain restoration of that structure, attended by decided improvement in the hearing. In none of the cases had the suppuration lasted less than two years, in two of them it had existed for twenty, and

in the present case for thirty-five years. The author's method consists in driving the pus from the tympanum into the meatus by the daily use of the catheter, if possible. In addition to syringing, and the use of an astringent lotion by the patient, the author applies a saturated solution of nitrate of silver (5j to 5j of water) to the middle ear by means of the cotton-holder. This usually causes severe pain for several hours the first time it is applied, but its subsequent use rarely gives much annoyance. It is necessary in some instances to employ a solution of less strength. In the case described and figured in this paper the membrana tympani was entirely gone, except a sickle-shaped segment half a millimètre wide and about two millimètres in length. Through the perforation a large polypus projected, after removal of which, the membrane was entirely reproduced in the space of two months, the hearing distance for the watch increasing in that time from 17 to 50 centimètres, with a subsequent further improvement.

3. *Gruber on Necrosis of the Temporal Bone*.—Professor Gruber relates (*Monatsschrift für Ohrenheilk.*, October 1879) the following remarkable case. A. K., aged 15, presented herself for treatment on account of chronic purulent inflammation of the left middle ear. It appeared on examination that she was completely deaf with the right ear, and, in explanation of this, she presented a piece of bone which was removed from the right mastoid process five years previously, after a severe attack of scarlatina. The sequestrum consisted of almost the whole of the mastoid portion of the temporal bone, and on its inner surface showed a considerable part of the groove for the lateral sinus. When the patient came under the author's notice, however, there was no gap to be detected over the right mastoid process, only a groove 2 centimètres long, and 1 centimètre wide, covered by adherent and cicatricial epidermis, the groove feeling as firm to the finger as healthy bone. The position of the right auricle was normal, likewise the position of the head (showing that the sterno-mastoid had secured an attachment to the new bone, although during the illness her head was said to have been turned towards the right side). Neither was there facial paralysis or any abnormality in the circulation that could be detected. There was no trace visible of the ossicles, which, according to the patient's account, came away after the scarlatina, and at the bottom of the right meatus a dry cicatrix was found.

4. *Knapp on Condylomata of the External Auditory Meatus*.—Dr. Knapp (*Zeitschr. für Ohrenheilkunde*, Band viii) has only met with this affection once in from nine to ten thousand cases of ear-disease. The case was that of a woman, aged 38, who six months previously had been infected by her husband. Both auditory canals were occluded, and at the orifice as well as on the skin of the concha there were reddish warty excrescences, evidently condylomatous in character. A papular syphiloderm was present over the whole body; she had also pharyngeal ulcers and swelling of the cervical glands. Antisyphilitic treatment, dusting with calomel, daily painting of the condylomata with a 1 per cent. solution of nitrate of silver, and ablation of a part of them with scissors, were employed. Meanwhile, acute pain with perforation of the membranes occurred. Under further local and general treatment, however, complete recovery took place.

5. *McKeown on the Application of Collodion to the Membrana Tympani*.—Dr. McKeown (*British Medi-*

cal Journal, December 27, 1879) first employed collodion, on account of its contractile power, for bracing up a relaxed membrana tympani, and with considerable benefit. From further experience of it in a variety of cases, he finds that it is capable of producing the following results. 1. It has torn through an adhesion of the membrane to the promontory, leaving a perforation. 2. It has pulled the membrane and handle outwards, diminishing the concavity generally, and restoring mobility to the membrane and malleus. 3. It has demonstrated adhesions by pulling the non-adherent parts outwards. 4. It has ruptured the dermic and fibrous layers of the membrane, leaving the mucous membrane exposed. 5. It has improved the hearing in the majority of cases, in some instances remarkably. 6. It has sometimes diminished, and at other times removed, noises and other unpleasant subjective sensations. The author has not only employed it in chronic cases, but also in moist catarrh of the tympanum and Eustachian tube, but the case he cites, whilst shewing that collodion may be applied without inconvenience in these cases, is scarcely sufficient to show that it was of any real benefit. The author also employs collodion for the purpose of keeping open perforations in the membrane. For this purpose he applies the collodion to the surface of the membrane around the opening, by which means peripheral traction is exerted on the margins of the aperture. The author has undoubtedly made out a case for the further trial of this remedy in suitable cases. E. CRESSWELL BABER, M.B.

REVIEWS.

On the Influences of Colloids upon Crystalline Form and Cohesion, with Observations on the Structure and Mode of Formation of Urinary and other Calculi. By WILLIAM M. ORD, M.D. London: Ed. Stanford. 1879.

Dr. Ord has just completed a work on a subject hitherto little studied. Indeed, authors who have paid special attention to the urinary deposits, to the fluids and solids which exist in the system, have been content to note the different forms of crystals found, and to draw attention to the fact that such or such a form predominates, or is present only under certain pathological conditions, without seeking to arrive at the cause of these forms. What these causes are, is what Dr. Ord has sought to determine. Not contenting himself with a simple verification of facts, he has gone on, depending on these facts to furnish a solution of the most difficult problems presented by living matter.

We will now proceed to rapidly examine Dr. Ord's work; but, following inversely the order he has observed, we will speak first of the experiments, and afterwards pass to the investigation of the solutions and hypotheses that his experiments suggest. Before entering on an examination of this work, we must state that, during a recent visit to London, Dr. Ord most politely showed us his beautiful preparations, and repeated for our benefit a considerable number of his experiments.

It is known that a hot solution of pure, or nearly pure, uric acid, prepared from the urine of serpents, leaves a deposit of crystals, tabular in form; some are square; some are oblong, six times as long as they are broad; others, again, are much longer and hexagonal in outline. These extremes are connected by a number of intermediate forms. These tablets

are generally separate and distinct one from another; but the uric acid found in the human urine does not generally present these forms. Dr. Ord thought that the other substances present might have some influence on the form of the crystals; and he has tried to discover the nature of this influence.

The first of these substances, and the most important from its frequency, is albumen. Dr. Ord placed in a test-tube some egg-albumen diluted with twice its bulk of water; to this he added, without stirring, an equal bulk of uric acid in solution. Hydrochloric acid in excess was then added. The next day, he found on the surface of the albumen large laminar crystals, with two or four intermediate diagonal lines. In another experiment, the fluids were mixed, and the results obtained were: 1. Small thick rhombs; 2. Thinner rhombs, approaching the hexagonal form by the truncation of the acute angles; 3. Oval plates, with or without a central depression or perforation; 4. Large flat rhombohedra in all forms of transition up to spherical or subspherical bodies, with radiating striation on the one hand and dumb-bells on the other. Dr. Ord sought to discover the influence of albumen brought to the state of peptone by the action of pepsine acidified by hydrochloric acid. The precipitate obtained, after an interval of twenty-four hours, was formed of large, very thick, quite homogeneous halbert-shaped crystals.

A solution of uric acid, mixed with a solution of refined cane-sugar, gave very thin laminar crystals of long oblong shape, with well defined edges and with some diagonal lines. With impure grape-sugar the uric acid solution gave plates with three-sided ends, uniform in size, but varying in the rounding of the terminal angles; and with brown cane-sugar, hexagonal plates of all sizes were formed. Thus, the more impure the sugar, the more changed is the primitive form of the crystals of uric acid.

Gum arabic, a powerful colloid, and starch, a still more powerful one, causes uric acid to crystallise in the form of oblong plates extremely elongated, often curved inwards between the angles and with many lines on their surface, in the form of compound crystals, reminding one of the sails of a windmill; also in the form of small spherical bodies and plates, some square, but mostly oblong, and with figured surfaces.

Uric acid, crystallised in a weak solution of gelatine, produces perfect hexagonal plates, large and thin, and subcubical crystals much smaller than the plates. A strong solution produces large oblong masses, which, seen sideways, present the appearance of an oblong axial plane bristling on both sides with thick acicular crystals.

By pouring hydrochloric acid on a solidified mixture of gelatine and an alkaline solution of uric acid in a sufficient quantity to render the mixture acid, Dr. Ord obtained very thick halbert-shaped crystals, and very curious laminar crystals connecting the halbert with the rhombohedron and oblique octohedron.

A decoction of bullock's livers, containing a large proportion of glycogen and hepatic sugar, with the addition of some strong solution of uric acid and liquor potassæ, gave, with an excess of hydrochloric acid, a precipitate of amorphous glycogen, containing laminar crystals with a broken oblong outline, the smooth surface being figured by the presence of small imperfect lamellæ.

Two important and interesting facts, as Dr. Ord observes, result from this series of experiments.

1. Under the influences of pure sugar, the crystalline form of uric acid is little changed: under the influence of impure sugar, the form is more and more changed; and under that of albumen, even after an interval of twenty-four hours, uric acid assumes spherical and calculous forms. 2. Time has a considerable influence. All the crystals above described were obtained after an interval of twenty-four hours. If a longer time elapsed, the influence of the colloids was more and more marked. This observation of Dr. Ord coincides with that already made by Dr. Lionel Beale, *à propos* of urinary deposits.

Dr. Ord affirms that mucus which is not putrid exercises no great influence on the form of uric acid crystals. He is inclined to attribute a great influence to putrid mucus. In this he agrees with the greater number of those authors who have studied the formation of calculi. We earnestly recommend to the reader the perusal of those pages in which Dr. Ord exposes this view. They are full of interest and of truly scientific reasoning.

After having studied the influence of the colloids on uric acid, the author studies their influence on the urates. Notwithstanding the interest of these experiments, we can here only refer to one which is excessively elegant, easily prepared, and capable of showing to a large audience the influence of albumen on the crystallisation of urea. Egg-albumen diluted with twice its bulk of water and its volume of solution of urea, is placed in a test-tube, and a few drops of nitric acid are added. The tube is heated until the urea is dissolved. A portion of the albumen coagulates, and forms an upper stratum on the surface of the liquid. In the inferior layer, which is slightly coloured by nitric acid, but perfectly transparent, when the liquid cools, little round balls appear floating in the body of the liquid. These become larger and larger as the liquid becomes cooler; often two join together and form one. This process continues until the liquid forms a solid whole. This elegant experiment is still more striking, if at the same time some nitrate of urea be allowed to deposit in a tube placed alongside. The spectator then sees the influence of albumen on the form of crystals of nitrate of urea.

In another series of experiments, Dr. Ord endeavoured to ascertain what are the forms assumed by certain salts often found in the organism, when two different salts come into contact whilst slowly diffusing themselves through a colloid mass. In the first experiment of this kind that the author made, he tried to determine the relation which exists between the octohedron and the dumb-bell crystals of oxalate of lime, 'in fact, to turn the one into the other' (*loc. cit.*, p. 107). This is how he proceeded. 'Some perfectly clear jelly from isinglass was melted in a flat-bottomed jar, in quantity enough to form a layer about three-quarters of an inch deep. In this, while still liquid, a number of glass tubes, each about four inches long, half an inch in diameter and open at both ends, were placed upright, so that each tube was immersed to the depth of nearly three-quarters of an inch. After cooling, the tubes were removed, and each was found plugged with firm clear jelly, so as to be thoroughly water-tight. Six of these tubes were next filled with slightly alkaline solution of potassium oxalate, and placed with their plugged ends in a weak solution (about six grains to one ounce) of chloride of calcium, the level of the solution in the tubes being much higher than the level of the calcium solution. The plug of jelly was thus interposed between the two solutions, in the hope

that, diffusion slowly occurring, the results of the mutual decomposition of the oxalate and calcium salt might be found after a time in the jelly, a fair representative, as far as consistence was concerned, of the casts of the kidney-tubes. This experiment was performed in a room of the average temperature of 70 deg. Fahr.'

The second day, the plugs were clouded by a white deposit containing octohedra and dumb-bells, and the process was then allowed to go on for three months. Then the oxalic solution was found clear, and the calcium solution was thickened with deposit of calcium oxalate. The plug of gelatine was free from decomposition. Dr. Ord then cut the plug in several places, beginning at the calcic end: he found, 1, octohedra; 2, tablets; 3, ovoid rhombohedra; 4, calculous (coalescing) dumb-bells; 5, wheatsheaves and crystalline dumb-bells (p. 112).

In order to obtain still more conclusive evidence of the influence of colloid matter, Dr. Ord modified this experiment in many ways. Although obliged to simply notice these modifications, we cannot omit to refer to his study of magnetism and electric currents. Sometimes he placed the glass tube containing gelatine between the poles of common horse-shoe magnets of moderate power; sometimes the poles were plunged in the gelatine before it was cold, from which resulted an extraordinary increase in the size of all the forms, crystalline and non-crystalline, without producing new forms, or a greater tendency to sphericity (p. 121). In other experiments, made with an electro-magnet capable of sustaining a weight of thirty pounds, some of the crystals appeared to have their axis slightly twisted. It would be very interesting to repeat these experiment, with one of those huge electro-magnets which are used for the purpose of studying diamagnetism.

The experiments made by plunging the two poles of an electric battery into gelatine, when copper wire was used, gave on the positive side chiefly crystalline forms, and on the negative side all the forms were spherical. Here, however, there was a phenomenon of electrolysis which caused the formation of a salt of copper, and the division of the plug of gelatine in two by a sort of membrane formed of hardened gelatine, perhaps modified by the salt of copper. When platinum and silver wires were used, it appeared that the influence of electricity was to favour the production of small very perfect crystals, chiefly octohedra; but here also, as Dr. Ord himself observes, the phenomena of electrolysis may again be called into question.

Temperature has also a considerable influence. In a kitchen of which the temperature was 55 deg. to 45 deg. Fahr., a plug prepared in the way already described contained three or four times more coalescent forms than crystalline, whilst a tube identically the same in the open air (27 deg. to 45 deg. Fahr.) contained ten times more crystals than coalescent forms.

Albumen appears to have a much stronger action than gelatine. With a plug made of this substance, Dr. Ord obtained almost entirely isolated or united spheres reflecting powerfully the light, furnishing to the polariscope a very perfect cross, which is always an indication of a structure formed of concentric circles.

Dr. Ord found that calcic phosphates are much less plastic than the oxalate of lime, but, on the contrary, carbonate of lime assumes the spherical form in all kinds of colloids. Spheres are nearly the only forms produced, the crystals being always very few. These experiments agree with those of Rainey,

who is almost the only predecessor of the author in the field he has so boldly explored.

Dr. Ord now studies the manner in which cholesterol behaves under the influence of acetic acid, both alone and in combination with glycerine, gelatine, or albumen. We know nothing so curious, and, at the same time, qualified to show the influence of colloids, as the following experiment. Some crystals of cholesterol are placed on a glass slip; to this is added a drop of acetic acid and a drop of glycerine. This is heated until all the crystals of cholesterol have disappeared; when the cholesterol is rendered fluid by heat, the glass slip is placed quickly under the microscope; cholesterol appears in the form of spheres. These spheres soon become slightly oval, and small projections are formed at the two ends; then a zone of indentation is drawn round the oval, and the globule of cholesterol is divided into two, three, four, or more spheroids. Rapid and active convulsive movements take place, and the cholesterol crystallises and takes the form of rhombohedra, which in turn break up into raphides. This experiment is still more curious if, instead of pure cholesterol, that taken from a biliary calculus be used. The colouring matter which it contains in intimate combination with liquid cholesterol separates from it, or more accurately speaking, is propelled on to the periphery in small masses just at the moment when the cholesterol crystallises.

The book terminates by a chapter on the Analysis of Biliary Calculi, in which the author describes methods for determining the nature of a calculus, methods so simple that every one can adopt them.

Before passing on to examine the chapter in which Dr. Ord exposes the ideas suggested to him by his researches, we will make some remarks on a chapter devoted to Spontaneous Disruption of Calculi. The observations relating to this subject are rare; among them are four personal to the author. The first treats of a calculus formed of uric acid and urate of ammonia; the second, of a calculus formed of uric acid combined with ammonia, and a little oxalate of lime; the third, of uric acid, the fourth of uric acid, urate of ammonia, and triple phosphate.

The first case is carefully examined by Dr. Ord, who, with scientific spirit, taking into consideration the health of the patient before the fracture of the calculus, the secondary deposit on the fragments, and the result of his examination of them, arrives at the conclusion that the urine of the patient had become alkaline, that this alkalinity determined a swelling of any mucoid matters that might enter into their composition; and that this mucoid matter, as the form of the fragments of the calculi indicate, placed in the centre, acted 'as the exploding powder in a shell' (p. 96).

Dr. Ord publishes in his book what we believe to be the first observation of an indigo-calculus. This calculus was a flat hard cake of the shape and size of a fruit-lozenge, weighing forty grains, removed from the pelvis of the kidney of a woman.

We have endeavoured to give a tolerably accurate idea of the work Dr. Ord has undertaken and brought to a successful issue, and to impress upon our readers its intense interest; also the illimitable path opened by it to new research. Workers who desire to increase the sum of human knowledge will find in Dr. Ord's book most valuable indications, inasmuch as the author indicates the points demanding elucidation. This, joined to the clear and simple style in which the work is written, is not one of the smallest merits of the book. In reading the record

of Dr. Ord's experiments it is evident that he has adopted the true method of experimental physiology. Any given phenomenon taking place in the system is necessarily complex, and therefore, in order to study it, must be reproduced in a simple form. This is what the author has done, and in studying his book one quickly perceives the successful result.

In the third chapter, Dr. Ord examines the work of those who have preceded him, and in a general manner his own. He does not hide from himself that the views which he sets forth will not be immediately accepted. This chapter contains in a few lines so many original views, that the task of summarising its contents is not easy.

After mentioning the facts that in the bodies of animals, and also in vegetable substances, colloids of different composition and reaction are everywhere most intimately intermingled; that the cell-nuclei of cell may be considered as masses of colloid suspended in the very heart of another kind of colloid matter, 'the protoplasm'; that the natural form of the cell is round, and its volume always the same in each kind of animal; also that the cells must have great functional activity, consequently very active molecular movement, and that the spheres of carbonate and oxalate of lime are formed in greater quantity but smaller size when the solutions of which they are formed are kept for some time at a temperature relatively high; Dr. Ord deduces from these facts the following hypothesis. 'This appears to me to depend upon the activity of the molecular movements, which, in proportion as they increase in range relatively to the radius of any sphere, tend to throw the peripheral molecules beyond the range of the common attraction. When a mass has grown to such a size that the peripheral molecules are in this way regularly swung out of the reach of the original centre, new centres must form, and, therefore, new spheres. Applying this to nuclei and cells, we can see the necessity of their dividing fissiparously when their growth reaches a certain size, so that rapidity of growth is rather marked by small spheres in great multitudes than by large spheres.'

He also thinks that the amœboid movements of the white corpuscles of the blood are marks of their molecular activity, and the scission of the yolk is due to this process. At the moment when the spermatozooids pass, new chemical relations are introduced, determining intramolecular movements conducing to the dichotomous division of the primitive cell.

W. VIGNAL.

Etude Critique sur les Localisations Spinales de la Syphilis. Par le DOCTEUR L. JULLIARD. Paris: 1879.

This brochure contains a clear and interesting sketch of the more recent views regarding spinal syphilis. A short historical introduction is followed by chapters on etiology, pathological anatomy, symptomatology, diagnosis and treatment; and appended is an index giving with considerable fulness the bibliography of the subject. We shall notice a few of the conclusions arrived at by the author.

Syphilitic myelitis is by far the rarest of the manifestations of nervous syphilis. It may appear at any epoch whatever of the disease, but as a rule it is seen in the tertiary stage, or rather in the interval between the secondary and tertiary stages, especially after severe secondary symptoms. In exceptional cases the cord has become affected as early as the sixth or third month after infection, but usually the interval

is one or two years. Little is known of the conditions which favour the appearance of syphilitic disease of the cord: the most noteworthy are the intensity of the virus, tardy or inefficient treatment (?), and a cold climate. Syphilitic myelitis is generally said to be of very rare occurrence in women, but the two cases that came under the author's observation both occurred in women.

In the chapter on pathological anatomy the author discusses the subject of functional paraplegia, and concludes that syphilitic paraplegia without lesion has no proved existence. An interesting parallel is drawn between cerebral and spinal syphilis: in both we find affections of the meninges, of the nervous matter, and of the vessels. Syphilitic spinal meningitis is of very common occurrence; it is characterised by thickening of the membranes (*méningite scléreuse*) or by the exudation of a plastic material (*méningite gommeuse*). As a result of it, we have adhesions between the membranes themselves, or between the membranes and the underlying medulla. Gummata are rare; only five cases are known to the author (abstracts of them are given), and they are all more or less contestable. The lesions of the nervous tissue are sclerosis and *ramollissement*, according as the affection is chronic or acute. Details are given of the necropsies of the most important cases of spinal syphilis. An examination of these shows that syphilitic lesions of the cord cannot be distinguished from other lesions by any pathognomonic sign. That the branched cells of Charcot and Gombault are not pathognomonic has been shown respectively by Ranvier, Pierret, and Coyne. In regard to the localisation of syphilitic lesions of the spinal cord, we are told that the most characteristic changes are found in the meninges, the neuroglia, and the adventitious coat of the vessels. In other words, syphilis is essentially a disease of the lymphatic system. On this view the diffuseness of the lesions, and the absence of all exact systematisation, are easily accounted for. The relations of locomotor ataxia to syphilis are discussed, but without any definite conclusions.

The irregularity and diffuseness of the symptoms, and the tendency to remissions, are the most prominent facts in the clinical history of these cases. The integrity of sensibility is often in striking contrast with the impairment of motility, still there may be anæsthesia, and there are frequently paræsthesiæ or perverted sensations. Feelings of pain, and affections of the sphincters and of the reproductive system, are frequently noticed. The pamphlet closes with a short chapter on diagnosis, prognosis, and treatment.

W. J. DODDS, M.D., D.Sc.

Ambulance Lectures, or what to do in Cases of Accident or Sudden Illness. By LIONEL A. WEATHERLY, M.D., Surgeon to the 1st Gloucester Artillery Volunteer Corps, Lecturer to the Ambulance Department, Order of St. John of Jerusalem in England. London: Griffith and Farran. 1880.

Of all the tasks undertaken by a teacher, that of modifying the expression of his doctrines to suit the level of the ignorant is the most difficult. The anatomical and pathological demonstrators at a school of medicine experience this difficulty when dealing with students who live, so to speak, in a very atmosphere of the subjects they study. Still more have popular science lecturers to overcome; for their pupils, even when well-educated and intelligent, do not spend the day, excepting one hour of lecture, among junior and senior friends frequently discussing

the subjects they are taught, and constantly employing its technical terms. What Dr. Weatherly attempts is yet harder; his little manual is published, we are informed, for the use of 'the policemen, railway officials, and other men engaged in large works, as well as for the public at large'. The extra difficulties of the author's task are obvious. His lectures on the management of cases of emergency are very good, and expressed in the plainest language. With regard, however, to cases of drowning, we think that it would be better to recommend to the absolutely uninitiated Dr. Sylvester's method of inducing respiration alone, for we doubt very much that a harbour official would take the trouble to study Marshall Hall's method, together with the former; or, should he do so, he would be liable to mix them up in his mind, to the great detriment and hazard of anybody whom he might have the chance of saving. As this work is partially intended for the police, we think that in treating of the narcotic effects of opium-poisoning the expression, 'you must be almost brutal in your efforts to stop this sleep getting the better of the patient' is injudicious. To the mind of many guardians of the peace, this would justify plenary brutality to cases of insensibility from other causes, especially from a 'poison' far more popular than opium. We are not enthusiastic about the value of the lectures on general outlines of the structure and function of the body, though the author could not have used plainer language; the application of anatomical knowledge to practical surgery is hard enough to the trained medical student, and a hundred-fold more difficult to a partially educated man. As to the chapter on bandaging, we agree with Dr. Weatherly in his remarks concerning the difficulty of teaching that art, as we may well call it, by verbal description, and must congratulate him on the admirable diagrams illustrating the subject. Finally, nothing could be more to the point and more in place, in a work like this, than the author's description of the proper way of carrying a patient on a stretcher, for this alone is the sort of thing that policemen and railway officials do understand, or ought to, if they are the least fit for their place.

ALBAN DORAN.

NEW INVENTION.

MODIFICATION OF MAREY'S SPHYGMOGRAPH.

M. Brondel, a naval surgeon, has constructed a modification of the ordinary sphygmograph. This modification consists principally in the suppression of the arterial spring, which is replaced by a fixed lever only, influenced by weight, and passively following the movements of the artery. A small movable and graduated lever, arranged at the back of the arterial lever, gives the power of varying the pressure by means of indexes, of which the weight is known, and of estimating it in grammes. The advantages of this modification are these: no elastic pressure, extreme delicacy of the tracing, the possibility of suppressing connections, valuation in grammes of the pressure on the artery and the relative tension of the blood, and easy application of the apparatus.

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MISCELLANY.

Two young ladies, a Russian and a Roumanian, are studying medicine at Montpellier. One of them, Mme. Tratchef, has successfully passed her examination for the degree of doctor.

THE ANATOMICAL USES OF THE CAT.—It was philanthropic as well as practical on the part of Dr. Burt G. Wilder to suggest the more extended use of the cat for dissecting purposes. It seems to be well admitted that cats are increasing faster, proportionately, than the population which supports them. And, applying the doctrines of Malthus, the cat rises to a numerical prominence in the civilisation of the future which is quite alarming. The cat in moderation is a useful addition to the household, and gives, we may say, rotundity and completeness to the domestic life. But cats in excess are annoying, and the proposal to make them the subjects of anatomical study by medical students is a welcome and judicious one. The anatomy of the cat is very much like that of man; the resemblance being closer than that of most other domestic animals. The viscera have nearly the same arrangement; the brain has the primary divisions, and even some of the fissures which are found in man. Most of the cranial nerves may be easily discovered. The bones and many of the muscles can be identified from a knowledge of Gray or Quain alone. There are many drawbacks to the successful

* 1 Mark=100 Pennings=One Shilling of English money.

study of anatomy upon the human body. The expense is considerable, the subject may be bad, progress is always slow, and there is, as a rule, very little systematic study in connection with the work. Dissection and examination of the viscera are greatly neglected, and yet they are the most important parts for the majority of students. It is very likely, therefore, that preliminary dissections of an animal so easily obtained and cared for as the cat would be of great help to the student. While studying under a preceptor or while pursuing any course of preliminary training, he could easily occupy part of his time in such anatomical investigations. He would thus acquire a practical familiarity with the use of the knives, the appearance of the organs and tissues, and the names and general arrangement of most of the structures of the human body. An interest in comparative anatomy would also be often excited, and such an interest is always valuable as stimulating to more earnest and thorough investigation. The numerical decrease of cats and the quantitative increase of anatomical knowledge are two things which it would be desirable to bring about. *The New York Medical Record* hopes that undue stress has not been laid upon the former.

METRIC TABLE.—As the metric system is frequently used in this journal, the following tables are given for the use of those who are not familiar with the system.

Metric Measures of Length.

1 Millimètre	-	-	0.001	=	.039 inches
1 Centimètre	-	-	0.01	=	.393 "
1 Décimètre	-	-	0.1	=	3.937 "
1 Mètre	-	-	1.	=	39.370 "
1 Kilomètre	-	-	1000 mètres	=	.62 miles

Metric Weights.

1 Milligramme	-	-	0.001	=	$\frac{1}{64}$ grains
1 Centigramme	-	-	0.01	=	$\frac{1}{6}$ "
1 Decigramme	-	-	0.1	=	1 $\frac{1}{2}$ "
1 Gramme	-	-	1.	=	15.432 "
1 Kilogramme	-	-	1000	=	2.7 lb.

Approximate Equivalents.

1 Minim or 1 Grain	-	-	=	.06 grammes
1 Drachm	-	-	=	4. "
1 Fluid Ounce	-	-	=	30. "
1 Ounce	-	-	=	31. "
1 Fluid Ounce of Glycerine	-	-	=	37. "
1 Fluid Ounce of Syrups	-	-	=	40. "

Temperature.

37° Cent.	-	-	-	=	98° 6 Fahr.
38° "	-	-	-	=	100° 4 "
39° "	-	-	-	=	102° 2 "
40° "	-	-	-	=	104° "
41° "	-	-	-	=	105° 8 "

To convert Centigrade into Fahrenheit, multiply by 1.8, and add 32.

THE HABITS OF INSECTS.—M. Fabre, a school-teacher of Avignon, who has been long conducting a series of interesting inquiries akin to those of Sir John Lubbock, has recently added a new chapter to his careful observations of the habits of insects. It would appear that the bees live in a sort of association, which strikingly resembles that which is practised by humanity in their great cities. With the ants and the bees, at least of M. Fabre's part of the world, there is an absolute community of existence. They are, certainly, natural builders. The females lay; it is their sole function. The individuals without sex are entrusted with the young, with the gathering in of the provender, and with the construction and laying out of the dwellings in common. With the Halictes, which M. Fabre has studied, this, however, is not the case; there are no neuters. The males, as with the bees and the ants, in no way meddle with 'household affairs', but the females dig in common the subterranean nest which is to receive their progeniture. This nest is composed of a corridor, a regular street, along which open, like so many houses, the boxes in which are placed the eggs, and in which are reared the young. Each female has her box or home, which belongs alone to her, and which she alone undertakes to keep in

good order, and which she alone enters to look after her family like a good housewife. It is only the building which is undertaken in common. The females pass the summer in preparing their home; and, when it is sufficiently comfortable, which happens about the commencement of September, they marry. For three months the happy husband is feasted and made much of; then, as happiness has in this world, in insect as in human life, a term, he dies, carried off by the first cold. The widows then sleep till the month of next May in their cells. The first fine days recall them to life and to their maternal duties. Here, says the *Builder*, is a strange revelation as to the state of the 'Industrial Dwellings' question in the insect world. Much, it seems, may be learnt by an acquaintance with the instinctive habits of the lower forms of creation.

THE INFLUENCE OF THE ELECTRIC LIGHT UPON VEGETATION.—At a recent meeting of the Royal Society, Dr. C. W. Siemens, F.R.S., gave a detailed description of some experiments upon the above subject which have been conducted during the last two months at his house at Sherwood, and exhibited specimens. The method pursued was to plant quick-growing seeds and plants, such as mustard, carrots, swedes, beans, cucumbers, and melons, in pots, and these pots were divided into four groups, one of which was kept entirely in the dark, one was exposed to the influence of the electric light only, one to the influence of daylight only, and one to daylight and electric light in succession. The electric light was applied for six hours each evening, from five to eleven, and the plants were then left in darkness during the remainder of the night. The general result was that the plants kept entirely in the dark soon died; those exposed to the electric light only or to daylight only thrived about equally; and those exposed to both day and electric light thrived far better than either, the specimens of mustard and of carrots exhibited to the society showing this difference in a very remarkable way. Dr. Siemens only considers himself as yet on the threshold of the investigation, but thinks the experiments already made are sufficient to justify the following conclusions:—

1. That electric light is efficacious in producing chlorophyll in the leaves of plants, and in promoting growth.
2. That an electric centre of light equal to 1,400 candles placed at a distance of two metres from growing plants appeared to be equal in effect to average daylight at this season of the year; but that more economical effects can be obtained by more powerful light centres.
3. That the carbonic acid and nitrogenous compounds generated in diminutive quantities in the electric arc produce no sensible deleterious effects upon plants enclosed in the same space.
4. That plants do not appear to require a period of rest during the twenty-four hours of the day, but make increased and vigorous progress if subjected during daytime to sunlight and during the night to electric light.
5. That the radiation of heat from powerful electric arcs can be made available to counteract the effect of night frost, and is likely to promote the setting and ripening of fruit in the open air.
6. That while under the influence of electric light plants can sustain increased stove heat without collapsing, a circumstance favourable to forcing by electric light.
7. That the expense of electro-horticulture depends mainly upon the cost of mechanical energy, and is very moderate where natural sources of such energy, such as waterfalls, can be made available. The paper gave rise to a highly interesting discussion, in which it was pointed out that the evidence afforded of the practical identity, as regards vegetation, of solar and electric light, besides the probability that it would be turned to immediate account by horticulturists, would afford great facilities for the scientific investigation of the influence exerted by light, as compared with other agencies, in promoting the formation of the active principles or most valuable constituents of plants, such as the quinine of the cinchona bark, the gluten of wheat, and so forth. Before concluding his observations, Dr. Siemens placed a pot of budding tulips in the full brightness of an electric lamp in the meeting-room, and, in about forty minutes, the buds had expanded into full bloom.

The London Medical Record.

CUSSET ON BRANCHIAL FISTULÆ AND BRANCHIAL CYSTS.

THIS subject has been much overlooked in England, but has for some time attracted attention in Germany, Heusinger having, in 1864, published in Virchow's *Archiv* (Band xxix) a paper upon branchial fistulæ and their developmental relationship to the branchial arches. But neither in England nor in France does it appear that much attention was paid to these observations; and M. Cusset notices that even now they are not quoted in standard English text-books. The treatise now under notice seems to have been inspired by M. Léon Tripier of Lyons, whose original work in other directions has attracted considerable attention. A careful *résumé* of the development of the branchial arches, especially in mammals, is necessary for the subsequent explanation of the abnormalities under notice; and we would remark here that, in the rather extended summary of French views of the development of these arches, only four are referred to by the author. The first three are called respectively the tympano-mandibular, the stylo-hyoid, and the hyoid. Parker and Huxley recognise a fifth, and in two places Huxley is quoted, and the fifth referred to without any notice being taken of it by the author. But it is in the collection of cases of abnormality (fistulæ and cysts) that the *brochure* is most valuable, and the remarks of practical use to the surgeon.

Branchial fistulæ are divided into (1) complete; (2) with external orifice; and (3) with internal orifice alone. Of the complete, eighteen cases are referred to (or 23 per cent. of the total); of those with external orifice alone, fifty-two (or 69 per cent.); of those with internal orifice alone, five (or 8 per cent.) are referred to, but the accuracy of the diagnosis in these cases is more questionable. In 25 per cent. the fistula occurred on both sides symmetrically; in forty-six only on the right side, in seventeen on the left, and eight were median. The hereditary character of the abnormality was occasionally very marked (30 per cent. in all), and this character was the more pronounced when the fistula was complete. Sex did not appear to influence its occurrence materially.

These arrests of development may occur along any of the lines of the clefts between the branchial arches, but the cleft most usually at fault is the fourth, or that below the fourth arch. M. Cusset has given a diagram of the lines of the original clefts on the face and neck; and the line along which most of the abnormalities were observed corresponds with the anterior border of the sterno-mastoid. In the great majority of cases the external orifice is situated just above the episternal notch, and the sinus runs under the deep cervical fascia along the outer border of the thyroid cartilage, parallel with the sterno-mastoid. If it still remain patent, it passes above the sheath of the vessels, under the digastric muscle and above the hypoglossal nerve, to reach the hinder border of the palato-pharyngeus, where it terminates either in a *cul-de-sac* or by an orifice in the pharynx, just below the orifice of the Eustachian tube.

Along the lines of the upper three clefts, fistulæ more rarely occur, and the orifice selects usually a definite position in each cleft. As already mentioned, when the fourth branchial cleft is at fault, the external orifice occurs usually close above the episternal notch along the inner border of the sterno-mastoid. This is the *siège d'élection*, and occurs in forty out of the sixty observations tabulated. When the third branchial cleft is at fault, the origin is usually found in the neighbourhood of the thyroid cartilage. For the second cleft, the *siège d'élection* is at the great cornu of the hyoid bone; for the first, along the lower edge of the lower jaw, at or about the angle. When it is in the first cleft or between the first and second arches, one might expect to find concurrent defects of development in the auditory apparatus, which is developed to a great extent in this cleft. And four cases are referred to in which deformities of the ear or deafness accompanied branchial fistulæ. Similarly, arrests of development in the lung have been noticed by Virchow; and it is a curious feature that in several cases irritability of the branchial mucous membrane was readily excited by interference with the fistula—an explanation of which is suggested in the involvement of branches of the vagus in the walls of the sinus. Further, abnormalities of hare-lip and cleft-palate have occasionally been noticed in association with the defect.

The fistulæ with internal orifice only are the most rare, as mentioned above; but three cases are cited, in none of which is the evidence conclusive. They were all old people, in whom some diverticulum existed from the side of the pharynx, and in a fourth instance, taken from veterinary surgery, there was a similar diverticulum, but of curiously extensive dimensions, bulging subcutaneously at the root of the neck. This was punctured, and food passed through it. It is admitted, however, that all these cases may have been only cases of œsophageal hernia; but the author says that, if so, the origin may fairly be credited to a defect of closure of one of the branchial clefts, and in the case of the colt the peculiar abnormality existed apparently from birth.

The position, and often the congenital character, of branchial fistulæ, distinguish them from salivary fistulæ. The nature of the secretion also helps to determine, for in branchial fistula the fluid is generally viscid. The congenital character is not always seen, for it not unfrequently happens that the cleft is closed externally, and only becomes a fistula after inflammation has occurred from the retention of secretion, or after a fluctuating cyst has been opened in mistake for a suppurating gland.

Tracheal fistulæ (congenital) are very rare, and even of doubtful existence. Glandular fistulæ are most likely to be mistaken for branchial, but differ in not being congenital, in the nature of the discharge, and in their being associated with other strumous indications. The means for diagnosing branchial fistulæ may be summed up therefore thus.

1. Their position along one of the lines is indicated on the diagram appended to the paper. English readers will find this diagram reproduced in a paper on Congenital Dermoid Cysts of the Orbit and Face by the reporter, published in the *Transactions of the Pathological Society* for 1878. When the orifice is situated on the median line, it is generally found between the hyoid bone and the thyroid cartilage, and almost always is due to the opening of a cyst in this region.
2. The orifice is generally rounded—

rather small than large, and generally not showing signs of irritation. 3. They are usually congenital, or, if not so, they appear commonly soon after birth. 4. The narrow character of the sinus, its direction, its connection with the skeleton and with the sheath of the vessels, help to identify. 5. The characteristic liquid secreted is tenacious, not purulent unless irritated, containing epithelial scales and sometimes ciliated corpuscles. The obstinate persistence of these fistulæ gives rise to an unpleasant deformity, and very often to more serious symptoms. When the external orifice closes, accumulation generally takes place somewhere along the track of the sinus, and may give rise to interference with deglutition or with respiration, either directly or by involvement of nerve-filaments in the part irritated. It is therefore necessary to effect the closure of the whole sinus, commencing by the use of iodine injections. These are not usually successful in closing the whole track, but generally cause the obliteration of the small inner orifice if it exist; but it must be observed that the injection has, in several instances recorded in this paper been followed by rather alarming symptoms of suffocation and erythema. Complete ablation is strongly recommended where possible. M. Sarazin has practised this successfully, using a bougie in the sinus as a guide. But it has to be remembered that close connection with important vessels and nerves renders this proceeding, and also the use of the galvano-cautery, at times very hazardous. It may be remembered that Sir James Paget brought before the Royal Medical and Chirurgical Society in 1878 some interesting observations upon similar congenital abnormalities.

Cysts of branchial origin are discussed in the latter half of the work. Remak in 1854, Roser and Heusinger more lately, are credited with having urged the branchial origin of dermoid and atheromatous cysts of the neck; Verneuil and Broca, that of those of the mouth and face. M. Cusset dismisses as fanciful Lebert's theory of plastic 'heteropie', and maintains that, inasmuch as such tumours are usually congenital, have a definite situation along the lines of the branchial clefts; have a definite structure consisting of an epitheliated lining and cutaneous or skeletal appendages; and lastly, have in most cases a pedicle of attachment to the skeleton, they must be looked upon as resulting from imperfect closure of the branchial clefts. In three ways, such cystic tumours may be effected; by inclusion of the elements of the external tegument; by inclusion of those of the internal; and by persistence of the epithelium, which at one time covers an arch, and should normally disappear in the fusion of two arches. According as each of these causes it at work, so we shall be likely to meet with subcutaneous cysts containing dermal elements, deep cysts containing elements more closely allied to those found in the alimentary or respiratory mucous membrane, and cysts containing true skeletal elements. He classifies these cysts topographically, and, while not quite following Heusinger in attributing all congenital cystic tumours of the neck to a branchial origin, he seems to only exclude from such category simple serous cysts (hygromata) of the connective tissue. Branchial cysts of the lateral regions are found extending obliquely along the subauricular or hyoid region down to the sterno-clavicular articulation, following the direction of the sterno-mastoid, and, according to their situation and deep attachments, may be presumed to have taken their origin in one or other cleft. They may be large at birth, or

develop slowly afterwards, and not unfrequently insinuate themselves among important vessels and nerves, so as to render their removal at times a difficult matter. This insinuation among deep vessels gave rise to the theory proposed by Luschka and Arnold of their origin in an intercarotid gland, which was likened to the coccygeal in its being the starting point of foetal cystic tumours. Twelve cases are given in detail from various sources, and some of them of considerable interest. The second class of branchial cysts of the neck are the subhyoid; these correspond as a rule anatomically with the third branchial cleft 'between the third arch, producing the body of the hyoid, and the fourth producing the larynx'. They are therefore median, are always attached by a pedicle to the hyoid bone, and, lying on the thyro-hyoid membrane, are covered by the thyro-hyoid muscles. In a few cases, the cysts have been found between the thyroid cartilage and the sternum, and may therefore have been developed in the fourth cleft, as the author recognises no more than four arches. Eight cases of subhyoid cysts are detailed, chiefly from French sources.

The third class are the suprahoid; these comprise the much more common sublingual tumours known as meliceris, atheroma, steatoma, sebaceous ranula, etc. They are to be looked upon as the result of an inclusion of the elements of the buccal mucous membrane in the fusion of the second (or perhaps more correctly the first) and third arches. They are always adherent along the median line, either to the jaw or to the hyoid bone, and are distinguished from true ranula by the nature of their contents, being epithelial or otherwise dermal, as well as by their attachments. Only five instances are given, but these are well-detailed, and indicate the necessity for complete and careful extirpation. In all these branchial cysts, the only treatment really efficacious must be removal; but the time for operation is one of importance, and M. Cusset, wisely we think, recommends temporising if the child be very young. If the tumour be large and threaten interference with respiration or deglutition, he advises puncture and evacuation. If it do not discharge readily, then a free opening is preferable, and washing out with disinfectants. But all irritants must be avoided, or the adhesions which follow may make subsequent removal difficult and dangerous. Removal, however, is the only true means of cure.

The last part of the work treats of branchial cysts of the face, and the various clefts are considered *seriatim*. The commonest situation for these abnormalities is in what he terms the front orbital cleft, and especially at the outer angle of the orbit, the branchial origin of which was first distinctly traced by M. Verneuil. We notice in the *Journal of Anatomy and Physiology*, vol. xiv, parts 1 and 2 (LONDON MEDICAL RECORD, March 15, page 108), two interesting cases of hairy development in the eyeball, which may be studied side by side with the dermoid cysts of this region. These dermal cysts possess almost invariably a pedicle of attachment to a suture, and are therefore deeply placed and under cover of the facial muscles. Their attachment corresponds with a foetal cleft; their structure is fairly uniform, and consists of a proper wall of modified skin structure, and generally such skin appendages as hairs and sebaceous glands, and the contents are almost invariably degenerated epithelium and loose hairs. Their appearance is often congenital, but it not unfrequently happens that they remain unnoticed till about eight or ten years of age, when, through

some exciting cause, such as a blow, they enlarge and become obvious. Puberty appears to have considerable influence on the more rapid development, just as the skin itself and tissues to which they are closely related anatomically. Only one case is cited or known of by the author, in which the development of the cyst remained stationary throughout the whole of life. Suppuration may occur in the cyst, but it rarely happens that it causes its obliteration and cure; much more often an obstinate fistula remains, only to be cured by total extirpation of the walls. Sometimes, however, the pedicle of attachment is so firm and intimately connected with the skeleton, that it has to be in part left and touched with some escharotic.

Indications are given for distinguishing branchial cysts from other tumours—lipoma, myxoma, erectile tumour, hydatid, chronic abscess, and meningocele. The last is perhaps the only one of importance, and caution is necessary to determine the non-existence of communication with the interior of the skull before attempting the removal of any supposed dermoid cyst.

The conclusions arrived at are these. 1. The face and prevertebral portion of the neck are developed in all vertebrata at the expense of a branchial apparatus, composed of a series of parallel arches separated by clefts. In man, this condition is transitory only. 2. The morphological changes by which the arches and clefts disappear are subject to regular laws, and any causes hindering the development and closure of these arches tend to make permanent some transitory condition; hence numerous abnormalities, from monstrosities to simple fistulae and cysts. 3. Since congenital origin is not always easy to establish, the fact of localisation ought to be carefully considered; and hence invariably, when a fistula or cyst occurs in one of the lines corresponding with an original branchial cleft, there will be strong presumption that we have to do with a fistula or cyst of branchial origin. 4. Such cysts present a peculiar structure, and special connections of surgical interest. 5. Extirpation, when possible, is the only rational treatment.

W. W. WAGSTAFFE.

KAHLER AND PICK ON THE PATHOLOGY OF THE CENTRAL NERVOUS SYSTEM.

In the *Prager Vierteljahrsschrift*, 1879, Part 2 (*Centralblatt für die Med. Wissenschaften*, 1880, No. 6), Kahler and Pick conclude their paper on the Pathology of the Central Nervous System (see LONDON MEDICAL RECORD, February 1880).

1. They report an interesting case of word-deafness. A coachman, aged 58, after an apoplectic seizure presented the following symptoms: right hemiparesis, loss of speech, excepting the word 'Djon' (*Anglicè* 'John'), derangement of intellect, and inability to understand what was said to him, if no gestures were used. *Post mortem*, a large patch of yellow softening was found, destroying the cortex of the whole of the posterior half of the first temporal convolution. There was also softening of the base of the third frontal convolution, of both ascending convolutions, of the upper part of the second temporal convolution, and of parts of the gyri supramarginalis and angularis, and of the gyrus occipitalis. The authors agree with Wernicke in regarding lesion of the first temporal convolution as the cause of word-deafness.

2. Two cases of ataxia are recorded. A woman aged 30, showed marked ataxia of the inferior extremities, with great uncertainty and awkwardness in their movement. At first, the sensibility of the skin and the patellar reflex were retained; but subsequently the inferior extremities became paretic, and symptoms of deranged sensibility occurred. At the level of the third dorsal vertebra a tumour was found, which had flattened the cord posteriorly. In the cervical region there was secondary degeneration of Goll's columns, and of the direct cerebellar tracts. Below the level of the tumour there was discoloration of the *zones radicales postérieures*, and of the pyramidal strands of the lateral and anterior columns. Here, therefore, a circumscribed spinal lesion, by its interference with centripetal conduction, had caused ataxia, and in its early history simulated a cerebellar affection. The second was a case of bulbar ataxia occurring in a man, aged 50, who for some time had been subject to attacks of vertigo. At a later stage, paralysis of the left abducens, dimness of the left cornea, ataxic movements of the right extremities, and disturbances of the senses of pressure and locality on the right side were noticed, and the voice became high-pitched and crowing. Still later, paresis of the right rectus internus manifested itself. The ataxia of the extremities persisted till death. *Post mortem*, a hæmorrhagic focus was found in the formatio reticularis of the lower half of the pons; it implicated both sides, but at no point reached the floor of the fourth ventricle.

3. A case of amyotrophic bulbar paralysis with lateral sclerosis of the cord is described. A woman, aged 64, in addition to the ordinary symptoms of bulbar paralysis, had paralysis, contracture, and atrophy of the superior extremities, and paresis and rigidity, but no evident atrophy, of the inferior extremities. Through the entire length of the cord, on the left side more than on the right, granule-cells were observed in the postero-lateral columns. The anterior roots and anterior cornua were affected, the ganglion-cells of the latter being atrophied. Numerous granule-cells were observed in the anterior pyramids, likewise amid the longitudinal fibres of the anterior part of the pons and the middle third of the crura cerebri. The ascending convolutions were atrophied—a fact which is held to show the extension of the disease upwards along the line of the pyramidal tracts.

4. A peculiar condition of the cord was noted in a syphilitic child, five months old. In the left lateral column there was a discoloured patch riddled with small holes, in which thickened blood-vessels lay. The cells and nerve-fibres had almost disappeared, their place being taken by a close network of very fine connective-tissue fibres. Now, according to Charcot, if we have a patch of sclerosis from which axylinders have disappeared, we have to deal with a secondary degeneration. In this case, however, there was not the slightest trace of secondary degeneration.

5. A case of long-standing poliomyelitis anterior subacuta is recorded in which the large ganglion-cells of the anterior cornua were swollen and dim, and contained vacuoles. In some cells there were as many as twenty-five vacuoles. A similar condition has been described by Déjérine.

6. In a case of grey degeneration of the posterior columns of the cord, a remarkable malformation was noticed. Clarke's columns were imperfectly developed, and the white matter was deficient, particularly in the posterior columns. This was pro-

bably a case of congenital non-development of certain systems, resulting from a 'neuropathic diathesis'.

7. Four cases are reported, illustrative of various anomalies in the development of the central canal of the spinal cord; e.g., dilatation of it, and diverticula from it.

W. J. DODDS, M.D.

FRASER ON DEFECT OF THE CEREBELLUM.

DR. DONALD FRASER describes in considerable detail (*Glasgow Medical Journal*, March 1880) two cases (brother and sister), which he diagnosed some years ago as cerebellar disease; he has since had an opportunity of verifying his diagnosis in the male patient, who was also the elder; the sister is still living, but her symptoms are so similar to those of her late brother that there can practically be no doubt that she suffers from the same cerebellar lesion. The symptoms and *post mortem* appearances in these cases are specially interesting when considered in relation to Professor Nothnagel's observations, which were reported in the LONDON MEDICAL RECORD, November 1878. The brother, A. K., was a healthy child, but at two or three years of age it was noticed that he occasionally reeled slightly while walking; this reeling became decided and persistent at six or seven years of age, and prevented his attendance at school. As he grew up, he followed the occupation of a newspaper-boy; at the age of twenty-three he walked with the gait of a very drunken man, reeling very much, his body inclined forward, his head thrown back, his mouth open, and his eyes inclined upward, apparently in constant danger of falling on his face, though he fell but seldom, and was able to walk considerable distances. He gradually became worse, and had to give up his occupation of newsboy; walking was much more difficult and fatiguing, while he fell very often. At the age of 29 he had typhus fever, without being apparently much the worse for it. After his forced retirement from work, the following symptoms were noticed. 'His eyes moved unsteadily, though there was no true nystagmus, and, as already said, they were generally turned upward, and to one side. His right eye was affected with internal strabismus, which, like the other symptoms, came on gradually. His hearing was good, his sight fair, and tactile sensation normal.' Dr. Fraser's decided opinion is that there was no undue sexual appetite. Though he was thin, his appetite and digestion were good, and his muscular system tolerably well developed; he could sustain considerable muscular effort with legs and arms; indeed, until within about a year of his death, his general health was fairly good. His articulation was slow, guttural, and hesitating. Though uneducated, there were no indications of mental unsoundness, unless a particular fondness for money, and some amount of obstinacy, be considered as such. When he was seated, there was no tremor or chorea-like movements, with the exception of a nodding movement of the head. When asked to pick up any object, such as a pencil, he did it in the manner, though not so exaggerated, of one affected with chorea. Having picked it up, he could hold it out without any tremor or unsteadiness. On being asked to touch the point of his nose, with his eyes shut, his finger moved about unsteadily before reaching the spot. With the exception of a slight swaying movement he could stand well, both with

his eyes shut and open. The patient died of phthisis at the age of 33.

The *post mortem* examination was made by Dr. Joseph Coats. Phthisis pulmonalis, pneumothorax, amyloid liver, spleen, and kidneys, and smallness of the cerebellum, were the chief points noted. The weight of the cerebellum, when separated by cutting through the peduncles, was 1,260 grains. The cortical substance was greatly reduced in thickness, and the leaflets narrower and more close together. It is doubtful if the white substance were much reduced in bulk. From a number of measurements made on the normal cerebellum, and on that of this patient, it was found that the cortex in the latter was very little more than half the normal thickness. There was clearly a deficiency in the number of the large cells of Purkinjé; they occurred much less frequently in the deep layer of the cortex than normally; and not only so, but those present had a very different appearance from the large plump cells which the normal cerebellum presents. The cells had lost their characteristic pyramidal shape, and the thick process, which passes towards the surface, was absent or contorted; it was indeed impossible, from the examination of a single cell or of several, to determine in which direction the surface lay. The cells had a shrunken contorted appearance, and no nucleus was visible. The weight of the cerebellum in the above case was less than half the average weight in males.

In the case of the sister, B. K., now aged 24, the symptoms are similar to those observed in the man, though less marked. Their commencement and progress were similar, but she appeared to come under the influence of the disease more slowly than he did. She is well developed, menstruates regularly, is in good general health, free from mental defects, and there are no indications of either absence or excess of sexual appetite. The family history on both sides is good, with the following exceptions. The father, though now temperate, was given to drink before and after the birth of these two children; the mother has one sister who was weak-minded from birth. The patients in question have had seven other brothers and sisters: one died a few days after birth; one died at the age of fifteen months from sequelæ of measles, and had convulsions a few days before death; a third also died, aged fifteen months, of convulsions, after three days' illness. A fourth, aged thirty-two years, died of phthisis. The living members of the family are all in fair health. One, a married woman, had repeated attacks of convulsions when about eight years old, and she had a child which suffered from cerebral meningitis.

The patient, A. K., with his damaged cerebellum, had a good memory; his will was certainly not too well regulated, as he was obstinate, though not more so than many whose cerebella are not affected; he was so oppressed with his malady that he often wished he were dead. The author considers that, from the comparatively slow development of the symptoms in these cases, it would appear as if the disease were due to an arrest in the development of the cerebellum. There is no doubt, he says, more particularly in the girl's case, that these patients learned to walk without showing any obvious symptoms of inco-ordination of movement, and that, *pari passu* with increase in their growth and in the complexity of their relations to their surroundings, came an increasing incapacity for those movements of equilibration, whose chief centre the cerebellum

is supposed to be. This absence of distinctive symptoms at an early age is of interest in connection with the fact, that cases have occurred of very young children affected with cerebellar disease where no inco-ordination of movement was observed. Nothnagel seeks to get over the difficulty, by assuming that disturbance of gait cannot be noted with any degree of accuracy in such young children.

Dr. Fraser makes a number of interesting observations in connection with the literature of cerebellar disease and its symptomatology. He concludes by relating shortly an unpublished case in support of Nothnagel's view, that symptoms of inco-ordination do not occur in disease of the cerebellum unless the middle lobe be affected.

C. S. W. COBBOLD, M.D.

MÜLLER ON PNEUMO-PERICARDIUM TERMINATING IN RECOVERY.

DR. HERMANN MÜLLER of Zürich has published in the *Deutsches Archiv für Klinische Medizin* the histories, with comments, of three cases of pneumo-pericardium which ended in recovery.

CASE 1 was especially remarkable from its mode of occurrence, namely, through the rupture of a purulent pericardial exudation into the lung. The patient, when admitted into hospital, was complaining of severe pains in the thorax, with constant palpitation. He had been attacked suddenly four weeks previously with a sense of constriction and stabbing pains in the left side, attended with fever and severe cough, and rusty sputa.

On admission, his temperature was 101.6 deg. Fahr.; pulse small, 108-132; respirations 28; face livid. The cardiac movements were perceptible to the touch over a moderate area; there was no distinct heart-shock nor pericardial friction. The relative cardiac dulness, which was increased vertically and transversely, merged below and to the left into that caused by an exudation into the left pleura. No pericardial friction-sounds, and no endocardial murmurs, were audible, but the heart-sounds were soft and dull, and heard as from a great depth; the pulmonary second sound was accentuated; there was no expectoration; respiratory murmur was absent over the dull area on the left side. Three days later, there was a return of fever; his pulse was 156; he had intense dyspnoea; violent cough; and soon the patient began to expectorate much purulent matter. Then a pericardial friction became audible at the apex for the first time, and was more marked the next day. Temperature 105.4. There was increased dyspnoea. The borders of both lungs were pushed aside by the cardiac dulness. The diagnosis was, left empyema with rupture into the lungs, and pericarditis. There were no signs of pneumo-thorax.

The fever disappeared, the patient improved, the purulent exudation diminished; but on the twentieth day, remarkable and unmistakable auscultatory signs of pneumo-pericardium appeared, with headache, oppressed breathing, restlessness, lividity of face, palpitation, and feeble pulse. The relative cardiac dulness had diminished, and, on auscultation, the heart-sounds were very resonant, and there was heard a splashing, as of fluid in movement; a noise as though air-bubbles were rising in a fluid and bursting on its surface. At intervals, in addition, a sound often occurred as though air was being driven through a small orifice. There could be no doubt that these

sounds came from a cavity in which air and fluid were shaken together by the movements of the heart. Pneumo-pericardiac tympanites was absent, but it must be borne in mind that adhesion of the pericardium to the anterior wall can prevent the ascent of air-bubbles, and the accumulation of air was not great, as the extent of cardiac dulness had diminished but little.

The treatment consisted in rest, narcotics to subdue the cough, ice to the cardiac region. The metallic cardiac sounds disappeared the next day, to return for twenty-four hours on the fourth and fifth days; but the splashing was not so extensive. These sounds again subsided, and convalescence ensued. Ten days later, a puncture was made into the pleural sac, and some clear serous fluid withdrawn, showing that no purulent pleural exudation had ruptured into the lung as had previously been supposed, but that the rupture had proceeded from a purulent pericardial exudation, and that a pericardio-pneumonic fistula must have been produced in this manner. The patient recovered completely.

CASE 2 arose traumatically. A man was crushed between two heavy stones, and sustained fractures of the acromial ends of both clavicles and of the fifth and sixth ribs in the vicinity of the heart. Respiration 36, laboured; pulse 120; temperature 101.1; the countenance was livid and anxious. There was cutaneous emphysema on the left side, from the cardiac region to the axilla, not over the heart itself. Percussion over the heart was tympanic; on auscultation, loud metallic, ringing, bubbling sounds, synchronous with the movements of the heart, were heard. The treatment consisted in absolute rest, speech being forbidden, ice-bags, rigid diet, and morphia. In this case death appeared imminent; there were great restlessness, dyspnoea, and thirst, during the first night. The following morning, however, the cardiac splashing sounds had disappeared; improvement was continuous, and the patient was discharged cured on the seventy-fourth day.

CASE 3 occurred from a knife-wound (stab), in the left breast. There was pallor from loss of blood, and the lips and cheeks were blue; the patient's expression was anxious, and he had dyspnoea. Over the normal region of cardiac dulness there was a clear tympanic resonance, extending from the inner side of the nipple to the left border of the sternum. The cardiac movements were feebly sensible to touch and sight; the apex beat directly below the nipple. Over the entire heart, and more intense over the apex, loud splashing succussion sounds were heard, synchronous with the cardiac movements and independent of those of respiration. The cardiac sounds were metallic, and almost masked by the loud gurgling sounds.

The treatment consisted in absolute rest, avoidance of speech, ice-bags to the cardiac region, fluid food, and small doses of muriate of morphia in cherry-laurel water every hour. In a few hours the abnormal cardiac sounds and the tympanites had greatly diminished. The patient did well, notwithstanding a subsequent largish effusion into the left pleura, which was slow to disappear. The patient left the hospital on the fifty-fifth day.

Dr. Müller calls attention to the following facts in connection with this lesion. Air may gain access to the pericardium—1. By traumatic openings; 2. By ulcerative perforation of the pericardium from within or without, the pericardium becoming adherent to adjacent parts in consequence of lesions in them, and it has happened from œsophageal carcinoma;

from pyo-pneumo-thorax; from ulceration of stomach and perforation of diaphragm; from hepatic abscess opening into both pericardium and stomach; from rupture of a pulmonary cavity; or a pericardial exudation has made its way through the thoracic wall, or has perforated into the lung; 3. By the spontaneous development of gas from ichorous decomposition of an exudation.

He thinks most writers indicate a too unfavourable prognosis. Of twenty-eight cases collected by him, one half of which were of traumatic origin, nine ended in recovery, six of these being traumatic cases. Of all the cases, eight in number, due to ulcerative perforation, only one recovered; but these were nearly all associated with grave constitutional maladies.

I. BURNEY YEO, M.D.

SODIUM-BENZOATE IN THE TREATMENT OF PHTHISIS PULMONUM.

DR. PAUL GUTTMANN read an interesting paper before the Berlin Medical Society, reported in the *Berliner Klinische Wochenschrift*, December 8th, 1879, upon the inhalation of sodium-benzoate in phthisis, a mode of treatment which has excited much interest. He prefaces his lecture with an explanation of the theory upon which the use of the benzoate is based.

In 1877, Professor Klebs, before a scientific convention at Munich, maintained the position that tuberculosis is a contagious disease of a parasitic nature, being caused by certain microscopic organisms, which enter the body and there increase, and that it may possibly be cured by the use of such agencies as are capable of destroying these organisms. Klebs considered that he had proved the parasitic origin of tuberculosis experimentally, as follows. If a minute particle of tubercle be placed in a solution of albumen, there will shortly appear in the liquid an immense number of microscopic organisms, which exhibit lively movements, while another solution not thus planted remains free. A drop of this solution will induce the same growth in a second, and so the experiment may be continued with fresh solutions, until the original tubercle-particle has become extinguished in the repeated dilutions; but still there will be found in the last a swarm of the microcosms which evidently spring from that particle. If, of the last infected solution, some be injected into the veins of an animal, a true and universal military tuberculosis will be produced. Klebs believes that he has discovered the presence of these same microcosms in the grey tubercle of men and animals, under the form of minute bodies amidst the round tubercle-cells, and sometimes exhibiting active movements.

Professor Schüller of Greifswald recently published the following experimental results, supplementing those of Klebs. If tuberculous matter or microcosms, cultivated as above described, be injected into animals through a tracheal opening, after a time, without exception, they all die of general military tuberculosis, much emaciated, and with alopecia. But if animals similarly inoculated, and manifesting the same resultant cachexia, be made to inhale for weeks the spray of sodium-benzoate, they will survive. Dr. Graham Brown, in Dr. Klebs's laboratory, discovered that the diphtheritic fungus, when exposed to the action of a solution of that salt, or injected into animals already dosed with the salt, proves innocuous.

As a result of these experiments, the treatment of phthisis with inhalation of sodium-benzoate has been undertaken.

Dr. Guttman treated with sodium-benzoate at the Berlin *Baracken Lazareth*, 31 phthisical patients, 24 male and 7 female, aged from 17 to 56. The disease in a majority was far advanced. Such patients were selected as exhibited either an unmistakable hectic type, or a certain regularity in their variations of temperature, so that any effect of the inhalations would be immediately recognised in the temperature curves. The temperature was taken three times daily. The inhalations took place twice daily, at morning and evening. A 5 per cent. solution was at first used, 5 grammes of the salt being given daily, dissolved in 100 grammes of water. Later on, five patients were given 10 grammes daily. Finally, in accordance with the recommendation of Professor Rokitansky of Innsbruck, 1-1000th of the body-weight was adopted as the measure of the daily dose. A man weighing 50 kilogrammes would require on such an estimate 50 grammes daily, and this 1,000 grammes of water to make a 5 per cent. solution. Three patients took this increased dose, two hours being consumed in the inhalation. Of the 31 patients, 15 inhaled for three weeks; 6, fourteen to nineteen days; the remaining 9, three to twelve days; 4 of these last, not tolerating the inhalation, took the salt by the stomach, 20 grammes to 200 grammes of water, a tablespoonful every half hour. Nine died, two left the hospital, the rest are still under observation.

The results were as follows. In not one of the cases was the febrile temperature perceptibly diminished or altered in its fluctuations; neither was the bodily weight affected. The physical symptoms persisted without favourable change. The night-sweats, when present, were not lessened. Thus not a single symptom was relieved.

At the necropsy of the nine that died, no indications of a healing process in the lungs could be detected. Hæmoptysis seemed to be excited by the inhalation in two of the cases.

This paper of Dr. Guttman was followed by a discussion. Dr. B. Fränkel stated that he considered carbolic acid to be a better antiseptic for the lungs than the benzoate of sodium, since it was volatile. He had caused patients to wear constantly an inhalation apparatus charged with a 2 per cent. solution of sodium-benzoate, with no good result.

Dr. Senator had also made use of the benzoate, but could not observe any improvement due to its action. He doubted much if the salt were absorbed, as the urine in the first cases did not give the proper reaction. He had not observed any injurious effects from the internal administration of the salt, even in doses of 12 grammes and more daily. He also called attention to the fact that, in phthisis, serous effusions might take place, especially into the pleural sac, without being at once apparent, and the real bodily weight might be thus obscured.

Dr. Wolf said that, in regard to the question of complete penetration of spray into the lungs, there could be no doubt that could take place. He had made rabbits inhale in spray 15 to 20 cubic centimetres of a liquid containing bacteria; and, on killing them one or two hours afterwards, the entire respiratory tract, even into the air-cells, was found charged with bacteria. His investigations did not confirm the parasitic theory of phthisis. He had examined cases of undoubted disseminated military tuberculosis in man for the actual presence of bacteria in the exact site of tubercle-formation; first

examining fresh, small, perfectly transparent tubercle from the omentum of children that had died of acute miliary tuberculosis. By no method of investigation could the least trace of bacteria be discovered either in the vessels of the tubercular masses, or in the vessels of the vicinity; the granules in the giant-cells, which had been taken for bacteria, might also be made to disappear under the use of various chemicals, such as ether, chloroform, and glacial acetic acid. Dr. B. Fränkel inquired of the surgeons present if, in their treatment of tuberculous inflammation of the joints, etc., they had observed any results from the use of carbolic acid. To this question, Drs. Langenbeck, Bardeleben, and Küster, answered in the negative.

HYDROBROMIC ETHER AS AN ANÆSTHETIC.

IN the course of a lecture on pain and anæsthetics reported in the *Philadelphia Medical and Surgical Reporter* of March 6, 1880, Dr. Lawrence Turnbull gave some details respecting the use of the new anæsthetic—hydrobromic ether. He said that for all operations in surgery, both for the general surgeon and dentist, at the house of the patient, or in the private office, nothing has yielded such satisfactory results as hydrobromic ether. This was his own opinion, expressed in his work when he wrote his conclusions, in June 1879; and this opinion has been confirmed by its still more extended use in one hundred and sixty cases, in all kinds of operations. These facts have been proved, not only by the writer, but by surgeons in New York, Philadelphia, and in the West. Its odour is so agreeable, and it produces on the throat and upper parts of the pharynx such an anæsthetic effect, that operations can be performed upon these parts with ease and safety. It will not easily ignite, and it will even put out the light of a lamp or of a match.

Dr. Turnbull then relates one or two instances of the many in which he has used the hydrobromic ether in the removal of hypertrophied tonsils, fibrous polyps, etc., without cough or irritation. A child, three years old, and perfectly healthy, had lacerated the soft palate by running into it a pointed piece of wood. Two sprinklings of hydrobromic ether on a napkin sufficiently relaxed the patient, and produced such temporary anæsthesia as to permit touching the cornea without movement, and a thorough examination and stitching of the wound, with full and free examination of the fauces. In another case, with three drachms, a patient was etherised with the hydrobromic ether in less than three minutes, and a painful tooth was extracted, the antrum was perforated, and the cavity freed from pus. The recovery was prompt, with entire relief to the parts, which could be touched with impunity, while before the use of the agent they were so sensitive as to cause pain on the slightest touch.

Experiments with Hydrobromic Ether prior to Dr. Turnbull's first use of it.—The late Mr. Thomas Nunneley,* of Leeds, made five experiments on animals, with hydrobromic ether, in 1849, taking two dogs and three cats; one of the latter died; they were all placed in large jars and atmospheric air excluded. 'A full-sized terrier dog was put into a four-gallon jar, with one drachm of "bromic ether". The last cat which was operated on was put into a jar of six hundred cubic inches, in which there was

one drachm of bromic ether. He absolutely did not move a muscle, but gradually sank down, head foremost to the bottom of the jar, and in one minute he was perfectly insensible. The respiration became laborious, then slower, and in fifteen minutes it altogether ceased. In twenty-five minutes he was removed from the jar, which still smelled very strong of the ether. *Post mortem* examination was made immediately. The muscles were quite flaccid. On dividing the phrenic nerves, the diaphragm moved slightly. The lungs were crimson in colour, and much collapsed; the pulmonary veins very full; the bronchial membranes were pale and dry. The heart, both auricle and ventricle, on the right side, was as full as possible; the venæ cavæ were also excessively distended; the left auricle was also very much distended, but the ventricle was firmly contracted and empty; the proper vessels of the heart were not much filled; the blood was alike dark on both sides. The sinuses of the head were filled; the pia matter was congested, as was the brain, but not in a corresponding degree; its substance was serous, and there was a little fluid in the ventricles.'

At p. 325 of the same *Transactions* there is another short paragraph in reference to the hydrobromic ether, as follows. 'The bromide of ethyl is a pleasant, rather fragrant ether, not of a very penetrating smell, is sweetish to the taste, at first rather insipid than not, but afterwards it is more pungent. It possesses very considerable anæsthetic power. Its inhalation does not produce irritation, and does not appear to be unpleasant. When used in large quantities, the animals soon recover from a condition of complete insensibility, without any disagreeable symptom; and when, as in the third experiment, upon the cat, in a full dose, without air, the creature sank down, without moving a muscle, merely from its weight, into a state of the most profound anæsthesia, within one minute after being put in the jar. The fact of respiration continuing at all, during fourteen minutes, in such a condition, shows that this fluid is more manageable than some others'.

There are no further experiments published until the meeting of the British Medical Association in 1865, when Mr. Nunneley brought the subject before the meeting, and stated that he had employed either hydrobromic ether or Dutch oil, chloride of olefant gas, in all the principal operations at the Leeds General Eye and Ear Infirmary; but he gave no experiments by any one else who had tried it. There has been no other mention made of it, and it seems to have died a natural death, until revived in 1876-7, by the French, but they only made experiments on the lower animals, and, like Dr. Turnbull, were not aware of the English experiments; nor is there any notice taken of them by any British or American writer on materia medica or therapeutics.* When he brought it before the British Medical Association at Cork, in July 1879, not one of the gentlemen present in the Section of Otology expressed the least knowledge of it, and the specimen that he took with him was very much desired by two of their number, to experiment with. He also brought it to the attention of the Medical Congress at Amsterdam, and there reported one hundred cases in which he or his friends had tested it in operations on man.

Method of Using it.—The hydrobromic ether is best given in a folded starched napkin, so as to cover the face, and outside that a soft pocket handkerchief

* *Transactions of the Provincial Association*, London, 1849.

* See Wood's *Therapeutics*, third edition, 1879.

or second napkin. Twice Dr. Turnbull has found that, unless the first drachm be crowded upon the patient, it is apt not to act promptly. This has been a cause of failure in two or three instances, in the hands of able surgeons.

He has met with one or two specimens of hydrobromic ether which, on standing, would become brown, from free bromine; and also some of the specimens had a most disagreeable odour of bromoform, and others of free phosphorus. Another specimen was mixed with ordinary ether, and would explode and burn. One of the greatest advances in its use by the profession was the obtaining of a formula free from the explosive article, phosphorus, and furnished at a moderate cost; the full formula will be found in Dr. Turnbull's work.*

The formula is $C_2 H_5 Br$. (Nunneley had it $C_4 H_5 Br$). The boiling point is 105.2 Fahr.; Nunneley's not quite 105 degs. It has a density of 1.419 at 59 degs. Fahr. Mr. Nunneley states that neither the specific gravity of the liquid or vapour, nor its boiling point, were given in the chemical works which he consulted at that day (1849).

Mr. Nunneley gives no method of preparing it. His description is not quite applicable to the agent which Dr. Turnbull now employs. 'The bromide of ethyl,' he states 'is pleasant, rather insipid than not, but afterwards it is more pungent.' His description would be, hydrobromic ether is a pure, colourless, very volatile liquid, which evaporates with great rapidity on bibulous paper, leaving no residue, and a strong ethereal odour, which remains upon the patient's breath long after its use. It has a sweetish and hot taste. Its boiling point is intermediate between those of chloroform and ordinary ether. It is sparingly soluble in water, but mixes with it, and in all proportions with alcohol and ether; hence it is easy of adulteration. To show its true composition, when its vapour is decomposed by passing through a glass tube at a low red heat, it is resolved into ethylene and hydrobromic acid gas. With ammonia, it yields hydrobromate of ethylamine.

The name that it should receive and retain is hydrobromic ether; this is the title applied to it by Professors Maisch and Stillé and Dr. Green. In their first edition† they were not cognisant of any experiments on man, and in their second edition they only knew of the ten cases which Dr. Turnbull communicated to the State Medical Society in 1878. It was first made for him in July 1877, by Professor Joseph P. Remington. Subsequently he reported thirty-five instances in which the hydrobromic ether was used by him, and published them in 1879. (See *Artificial Anæsthesia*, second edition.)

Hydrobromic ether possesses the following properties. 1. It is an anæsthetic which, with care, may be safely administered to man and animals. 2. It is more rapid in producing anæsthesia than even chloroform, and is eliminated, by respiration and the kidneys, more rapidly than any other of this class of agents. 3. The heart and respiration are but very slightly affected, unless it be employed in excessive quantities. 4. Vomiting is more rare than with ether or chloroform. 5. Owing to its odour being more rapidly removed, it can be used with comfort in a private office or the patient's chamber; and, as a

rule, the odour is more agreeable than that of ordinary ether. 6. Hydrobromic ether not being inflammable, and producing its anæsthetic influence on the muscles of the throat, any operation can be performed on the mouth and throat with satisfaction to the surgeon and comfort to the patient. 7. In vivisections, it acts more promptly than ether upon animals, requiring, as a rule, only two minutes to bring a dog under its influence, and is not fatal, like chloroform.

In one hundred cases where hydrobromic ether was used, there were twelve cases of slight nausea after the operation, and eight cases of vomiting during the operation, but always where the patient had partaken freely of food of a solid character just prior to the use of the anæsthetic. Asphyxia was not noticed in any of the cases, neither was there in any instance evidence of fainting.

Hysterical excitement was noticed in six cases, but soon passed away, leaving no bad symptoms. In four cases there was some prostration, evinced by cold moisture on the hands and face, but of very short duration.

Patients came under the anæsthetic influence of hydrobromic ether in ten cases in one minute and a half; in twenty in two minutes; in ten in two minutes and a half; in forty in three minutes; in ten in four minutes; and in ten in five minutes.

In fifty cases unconsciousness was removed in from two minutes to two minutes and a half; in thirty cases in three minutes; and in twenty cases it took four and a half to five minutes to recover consciousness from the effects of the hydrobromic ether. Struggling, coughing, or gagging, which occur frequently during etherisation, were very rare under the anæsthetic influence of hydrobromic ether. This form of anæsthetic is not apt to produce headache. No giddiness attends the use of hydrobromic ether.

In conclusion, Dr. Turnbull performed three experiments. He first placed a pigeon under a glass frame of a little over a square foot in size, in which was a sponge saturated with the bromide of ethyl. At about the third minute the bird seemed to lose the power of locomotion and gradually settled down into a state of quietude for a few seconds, when it appeared to be somewhat nauseated, ejecting a few grains of corn, and then again settling into a quiet sleep. Thus it remained, the air being admitted to it freely, for about two and a half to three minutes, then suddenly flew around the room entirely recovered. While the bird was in the glass, a dog and rabbit were also placed under its influence by inhalation, taking about two minutes for the rabbit, but, as the dog succeeded in obtaining a larger amount of air, it took a somewhat longer time. While under the influence there were slight tetanic movements of the extremities, and soon after removing the ether slight stertorous breathing, from which, in the space of three to four minutes, the animal had entirely recovered consciousness, although it did not seem to be inclined to move. The rabbit was apparently dead; but, had it been taken into fresh air, and antidotal remedies and artificial respiration applied, it might have recovered; these not being tried, it succumbed. Upon making a *post mortem* examination, the right side of the heart was found engorged with dark venous blood, the left side very much contracted and empty. The lungs were beautifully shown by inflation, and but very slightly congested at their base, not enough to have had any effect in causing death. The kidneys were also very much congested with venous blood. The brain was entirely free from blood, not even the puncta vascula

* *The Advantages and Accidents of Artificial Anæsthesia*, second edition, Philadelphia, 1879. Messrs. Wyeth and Brothers are now able to supply it in any quantity, at a very moderate cost. Their product is entirely free from any odour, an objection to much of this anæsthetic as prepared by other chemists.

† *The National Dispensary*, second edition, pp. 114, 115.

losa being seen, but at the torcular Herophili was found a large drop of the same dark blood.

QUINCKE ON DIABETIC COMA.

PROFESSOR QUINCKE of Kiel has published in the *Berl. Klin. Woch.* for January 5, 1880, an account of a case of diabetes in a young lady, aged 16, who died comatose with dyspnoea. During life, the urine gave a strong reaction with perchloride of iron (Fe_2Cl_3).

The *post mortem* examination showed a diffused comparative sclerosis of the brain, but no localised lesion; the ventricles were rather narrowed than widened; the heart was small and pale; the lungs were oedematous and studded with lobular pneumonia; the spleen was enlarged and hard; the pancreas small, with lobules very marked; the liver somewhat large, clear brown. He discusses the nature of the substance that gives the burgundy-red reaction with perchloride of iron, and points out that it resembles acetic ether in this coloration, in the disappearance of the reaction by strongly acidulating or boiling the urine, and by the appearance later on of its decomposition products, alcohol and acetone, in the urine. But on the other hand the urine containing this substance did not smell of acetic ether, although ordinary urine or water containing an equal quantity (as estimated by the colour test) smelt strongly; so that if acetic ether were present it must have been in combination with something else, and it was proved that this something was not an alkali, or grape-sugar, or any normal constituent of urine. After standing, this substance disappears from the urine, and acetone appears. Finally, no one except Rupstein has ever been able to separate acetic ether from urine by shaking it with ether. He performed twenty experiments on animals with the object of determining the physiological effects of acetic ether, etc. The animals died with marked dyspnoea. In two cases only the urine examined immediately after the subcutaneous injection of acetic ether (dose 2 to 4 cubic centimètres) gave the reaction with iron chloride, but in these, as well as in all the others, the later urine gave no reaction. The breath never smelt of acetic ether. Glycosuria was sometimes present. Apparently, the acetic ether was destroyed very rapidly in the body.

It is notable that although poisonous symptoms were produced, it could not be detected in the breath or urine, while in diabetics it may be detected for a long while without being accompanied by general symptoms of poisoning. It cannot be said to be formed in the kidneys of diabetics, and not in the blood, as it can be smelt in the breath. There may be some substance present in diabetics which inhibits its toxic influence. He concludes that the substance present in the urine of diabetics giving the burgundy-red colour with Fe_2Cl_3 , is not acetic ether, but some closely related body. But as it may be present for months without giving rise to symptoms, it cannot explain the sudden occurrence of the symptoms. In many cases a diminution of the urine is noted just before the attack. The descriptions of 'diabetic coma' do not agree; in some the excitement is great, in some absent; the dyspnoea is sometimes with superficial, sometimes with deep breathing, sometimes with normal, sometimes with increased rapidity of respirations. He believes this condition in diabetes has similar relations to uræmia; here, as there, it is not *one* but many substances

which by abnormal metamorphosis are formed and accumulated in increased amount, and lead to toxic phenomena, which are combined together, although they differ from one another as much as the symptoms of any given alkaloid poison.

ROBERT SAUNDBY, M.D.

SABATIER ON LIGATURE OF THE CAROTID FOR ANEURISM OF THE INNOMINATE ARTERY.

THE case reported by M. Sabatier (in the *Lyon Médical*, Oct. 5, 12, 1879) from the treatise of M. Desgranges, is worth recording as a fresh instance of the distal operation in (presumed) innominate aneurism, and to some extent of its good effect, though its value is seriously diminished by the absence of any *post mortem* examination.

The symptoms are given in detail, but we do not judge it necessary to reproduce them here. It is sufficient to say that they were such as seem to justify the diagnosis of aneurism of the innominate artery—though, as far as the present reporter can see, there is nothing to show that the aorta was not also affected, nor even to render it absolutely impossible that the aneurism might not have been purely aortic, as it was in Mr. Christopher Heath's well known case. All that is said on this head is, that the diagnosis of aortic aneurism was excluded on account of the development of the tumour so exclusively on the right side of the thorax. But Mr. Heath's and other cases show that this sign is not by any means certain. The right carotid artery was tied on February 8, 1878. This was followed at first by a considerable diminution of the pulsation and size of the tumour, but in a few days the parts around the wound became inflamed and oedematous, and then the tumour began to grow in size—though the pulsation continued more feeble, and the rheumatic pains of which the patient had complained were much easier; and in this condition he remained till he quitted the hospital, after a stay of three months. At that time, his general condition was one of much general weakness. He survived his discharge from the hospital about nine months, and died from a cause which seemed quite unconnected with the aneurism—viz., from bronchitis contracted during a period of very cold weather. He had been under medical observation, and the aneurism had been going on so well—contracting and becoming harder, as he recovered his general health—that hopes were entertained of a complete cure. It was noticed that, during his fatal illness, though the cough was very violent, it did not in the least affect the size of the tumour. As stated above, no *post mortem* examination could be obtained.

In the remarks which the narrator of the case has appended, he discusses chiefly the operation of Brasdor (or Wardrop), and mainly addresses himself to the question whether it is desirable to tie the carotid alone, the subclavian alone, or both arteries simultaneously. He resolves this question in favour of the ligature of the carotid only, for the same reason which has led the present reporter to incline to the same conclusion; viz., because it is the treatment which allows a more logical explanation of its action on the sac than the ligature of the subclavian does, inasmuch as the coagulation of blood which usually occurs in the whole carotid artery after successful ligature may be expected to extend into the portion of the sac through which the blood going,

to the neck has been circulating. Strangely enough M. Sabatier believes that this consideration has been hitherto overlooked. He says 'Lastly, and this is a circumstance to which the authorities do not allude, the portion of the carotid below the ligature will be obliterated in all its extent, and the coagula reaching the inner wall of the sac will become the origin of new coagulation, in virtue of the old adage that fibrin produces fibrin'. Evidently, M. Sabatier has never read the *Lectures on Aneurism*, delivered, by the present writer, at the Royal College of Surgeons, and published in French in the *Gazette des Hôpitaux*, in which this fact is dwelt upon at a very great length. Nor has M. Sabatier had the opportunity of perusing the very interesting and important cases of double distal ligature which Mr. Barwell has recently published. These cases do unquestionably tend to restore our confidence in that method, and to predispose us to admit that the ligature of the third part of the subclavian may have some curative influence, however difficult it may be to account for it theoretically. In one of Mr. Barwell's cases, in which the patient died some months after the operation, of bronchitis, very much as M. Desgranges's patient did, Mr. Barwell states (*Med.-Chir. Trans.*, vol. lxi. p. 31) that the whole of the subclavian artery was obliterated; and in a second case (*Ibid.*, vol. lxii. p. 395) where the patient was still alive, he believes that the same result was obtained. The latter case, however, is obviously inconclusive; and in the former the *post mortem* examination was confessedly somewhat imperfect, and the preparation did not show any definite anatomical proof of a result so diametrically opposed to all our other experience of the phenomena of the collateral circulation after ligature, since, beyond all doubt, the ordinary and usual effect of tying the third part of the subclavian would be, not to obliterate, but to insure the patency of, the first part, through which the circulation for the arm must pass; and if the carotid were also tied, one would expect that the circulation through the thyroid axis would be greatly increased, and, therefore, the first part of the subclavian, proportionately dilated. Nevertheless, no one is more prepared than the present writer to admit that theory must bow to experience; and if the results of the latter are so decisively in favour of the simultaneous double ligature as Mr. Barwell's experience seems to indicate, we must be prepared to adopt it. Meanwhile, such cases as this of M. Desgranges' are valuable, as showing what may be effected by the ligature of the carotid only, though it is a great pity that no necropsy was obtained.

The suggestion that M. Sabatier makes is worth bearing in mind; whether, in cases otherwise hopeless, it might not be worth while to try the effect of simply exposing the tumour by dissection, without tying any vessels; recollecting the well-known case under the care of Porter, where consolidation and apparent cure followed in a subclavian aneurism, though the innominate artery, when exposed, was so diseased that the surgeon did not venture to put a ligature on it. T. HOLMES.

TRIPPIER'S MODIFIED AMPUTATION OF THE FOOT.

IN a thesis upon Chopart's amputation of the foot, Dr. Duchamp,* after a careful *résumé* of the biblio-

graphy of the subject, gives in the appendix the mode of procedure suggested by Dr. Leon Tripiér of Lyons. This, however, cannot be called a modification of Chopart's amputation, as the author implies. It is rather a modification of the subastragal, as the incisions are almost identical. But by whatever name it may be called, it is an operation well worthy of consideration, in cases of injury or disease, when the anterior portion of the foot has to be sacrificed.

Chopart's amputation has been perhaps universally looked upon with considerable disfavour, on account of the painful stump and tilting of the heel which follow sooner or later in many cases; and the cause of this is no doubt primarily the loss of the front half of the arch of the foot—a loss which it is extremely difficult to replace by mechanical means. The immediate cause does not appear to be so much any contraction of the tendo Achillis as of deeper tendons, and especially ligamentous structures; the latter of which are, according to Max Schede, dragged upon by the tendency to backward slipping of the calcaneum. Examining the static conditions of the foot, M. Leon Tripiér noticed that a horizontal plane, on a level with the sustentaculum tali, would divide the calcaneum at right angles to the axis of the limb, and expose a large surface of support; and he proposed, therefore, an operation after the following plan, in place of the usual method of Chopart's amputation.

The flaps are to be marked out by two elliptical lines, the first extending from the outer part of the tendo Achillis at its insertion, then passing two finger-breadths below the outer malleolus, and the same distance above the tuberosity of the fifth metatarsal bone, to end on the inner side of the extensor proprius pollicis tendon, opposite the posterior extremity of the first metatarsal bone. This is to be the dorsal flap. The plantar marking extends from the last-named point downwards and forwards to about an inch in front of the base of the first metatarsal bone, in the sole of the foot, then obliquely across the bases of the metatarsals to the outer side of the foot, and so to the starting point at the outer side of the tendo Achillis.

The stages of the operation M. Tripiér divides into four; 1. Section of the skin; 2. Division of the subcutaneous tissues; 3. Division of muscles and tendons; 4. Disarticulation and section of the bone. With reference to the division of the muscles and tendons, he divides first the dorsal tendons along the line of incision, then the plantar muscles, similarly, dissecting the latter flap back by keeping close to the bones. He then disarticulates as for Chopart's amputation. Then he detaches the periosteum from the calcaneum, as high up as the level of the sustentaculum, and saws through the bone horizontally from the inner side immediately below that process. This being done, he rounds off the projecting anterior angle of the bone. The two plantar arteries and the dorsalis pedis have to be twisted or tied, and he advises the operator to seek the posterior tibial nerve in the inner flap and remove it as high as possible, so as to avoid subsequent neuroma, which proves so troublesome after Chopart's amputation. After carefully closing the wound, and placing a drainage-tube through it, he immobilises the stump by means of a silicate bandage, which extends to the knee.

The incision, according to the author, resembles the inner plantar flap adopted by Jules Roux in tibiotarsal disarticulation, but the whole operation ap-

* *Étude sur l'Amputation de Chopart.* Par le Dr. S. Duchamp. Paris: Baillière et Fils. 1379.

pears to us rather a modified and much improved subastragalar amputation. The horizontal section of the calcaneum has a marked advantage over the subastragalar; for it not only preserves a greater length of limb, but places the stump in better static conditions. The astragalus has its lower surface oblique, being directed downwards and forwards, and there would therefore follow after a subastragalar amputation a tilting of the astragalus and a dragging upon the ligaments of the tibio-tarsal articulation. Besides this, the base of support is larger after section of the calcaneum, whence greater solidity in such a case. Lastly, after subastragalar amputation the astragalus is no longer connected with muscles and tendons, but with the section of the calcaneum the tendo Achillis is preserved, and the lateral tendons being in contact with the detached periosteum, there is as much freedom of movement as after Chopart's amputation, without the inconveniences of that operation, seeing that the equilibrium of the stump is secured.

The new operation has a further advantage over Chopart's in requiring less plantar flap, and also in making it possible for the operator to see the condition of the calcaneum; and this is undoubtedly of considerable importance, especially in cases requiring amputation for disease, although certainly the astragalus is often affected earlier than the larger bone. If the calcaneum be too much diseased, then a subastragalar or higher amputation can be immediately performed. The author makes the following experiment upon the dead subject. If the cut surface of the calcaneum be applied to the horizontal plane of a table, and strong vertical pressure be applied on the tibia from above, no movement is seen at the sides of the remaining bones. If, in this position, the ankle be uncovered, it is possible to divide one by one all the ligaments without producing any tendency to displacement of the bones. One may even separate completely the tibia from the astragalus left on the table, then replace the tibia in its normal position, and make vertical pressure upon it without any tendency for the tibia and astragalus to become displaced. The only movement one can find is a slight gliding downwards and inwards of the head of the astragalus, but the soft parts, which are thick here, prevent any displacement of the astragalus.

The operation has not yet been performed on the living subject, but we are glad to give publicity to the proposal of M. Leon Tripier. The subastragalar amputation is one which might with advantage be more practised than it is, as certainly affording better prospect to a working man than Chopart's operation; and in two which the reporter had under his hands, the results were in every way good. But the advantages of M. Leon Tripier's operation appear likely to make this a recognised and valuable addition to the surgery of the foot.

W. W. WAGSTAFFE.

FISCHER ON LOOSE BODIES IN JOINTS.

PROFESSOR H. FISCHER, of Breslau, has recently published (*Deutsche Zeitschrift für Chirurgie*, Band xii, Heft 4, 5) the results of some inquiries as to the origin of articular loose bodies (*Gelenkmause*). Although the histology of such bodies had been thoroughly investigated by Virchow, and many surgical authors had discussed their diagnosis and treatment, very little had been done with respect to their etiology.

The author deals first with loose bodies in healthy joints. These are invariably the result of injury. Cases of this kind are not of frequent occurrence. The joint usually affected is the knee. A loose body may be produced through injury in various ways. A portion of articular cartilage may be torn away, and set free in the joint. Many surgeons hold that loose bodies are very frequently, if not always, produced in this manner. The author records an instance of a loose body appearing in the left knee shortly after an injury to this joint. The body was removed by operation, and found to be composed of articular cartilage. An osseous portion of an epiphysis may likewise be set free through injury, so as to form a loose body. This event is much less frequent than the separation of a portion of articular cartilage. To the ten cases that had been previously recorded, the author adds one from his own practice, in which, after the death of the patient from severe injuries to the head and liver with contusion of the left elbow, a detached piece of the olecranon was found as a loose body in this joint.

Since it cannot be doubted that a loose body may be produced through the breaking away of a cartilaginous or an osseous portion from the articular extremity of a bone, such an event might be fairly assumed in clinical practice when, in the first place, the development of the loose body can be referred to a decided and severe injury followed immediately by considerable disturbance of function, and subsequently by symptoms of loose body in the joint; when, in the second place, it can be made out that before the injury the joint had been sound and capable of performing all its functions; when, finally, the loose body, removed by operation, resembles in its anatomical and histological characters such a piece of cartilage or bone as might have been broken away and set free in the affected joint.

John Hunter held the view that the formation of a floating articular body is usually preceded by hæmorrhage into the joint, and that the body itself is a mass of hardened and calcified coagulum. It has been pointed out by Virchow that many articular loose bodies indicate, in their structure, some such mode of formation as this, and are really composed of coagulated portions of extravasated or exuded fluid. According to Professor Fischer, who has observed three instances of this kind, the loose bodies formed from coagulated blood and fibrin are not permanent growths. They seldom become incruusted, and usually, after having existed for some few months, and having caused the common articular disturbances, spontaneously disappear.

That a large foreign body, as, for example, a bullet, may after penetrating a joint remain there without causing any inflammatory mischief, has been proved by an observation by Volkmann. This, however, is a very rare event, as such a body usually sets up much irritation and reaction, and demands prompt removal. Small foreign bodies may penetrate into the osseous or cartilaginous structures of a joint, and become encapsuled. In a case reported by Mr. Shaw, a portion of a needle formed the nucleus of a floating body of cartilage that was removed from the knee of a young woman. Professor Fischer mentions an instance in which a small portion of a saw used in Ogston's operation was broken off, and remained in the knee-joint without setting up any irritation.

The second group of articular loose bodies comprises all such as are found in the interior of diseased joints, being either products of inflammation

or the results of changes in such products. As was first pointed out by Ambroise Paré, these loose bodies may be formed in cases of hydrops articuli through partial coagulation of the accumulated synovial fluid. In an articular affection described by Volkmann under the designation of *hydrops fibrinosus articuli*, the affected joint is found to be filled with floating bodies of different sizes, many of which are supposed to be pure concretions. This affection has almost invariably been observed in the knee. One case, however, is recorded by Professor Fischer, in which the wrist was the affected joint. In an instance of this disease observed by Cruveilhier, the floating bodies had been regarded as hydatids. Loose articular bodies may be formed either through direct osseous transformation of the synovial membrane, or, without the joint, in the fibrous portion of the capsule. The formation of floating bodies through conversion of portions of the synovial membrane into cartilage or bone is of not unfrequent occurrence, especially in joints affected with chronic *arthritis deformans*. Laennec was the first to point out that such bodies may also be developed external to an articulation, and that they gradually grow inwards and towards the interior of the capsule, becoming enveloped in a prolongation of the synovial membrane. Finally, they may be broken off in some movement of the limb, and then become free in the articular cavity. The floating bodies thus developed present a characteristic form and structure. They are usually biconvex, one surface being formed of very hard bone, the other surface of hyaline cartilage. The affected joint presents very little of other change, save an increase in the amount of synovia.

Rokitansky first showed that loose bodies might be formed in diseased joints through over-growth and pathological metamorphoses of synovial tufts. It is well known that enlargement of these tufts frequently occurs in association with inflammatory changes in a joint. Cartilage-cells are formed in the swollen and knobbed processes of synovial membrane, which cells form firstly a chondroma, and subsequently become calcified or form bone. A growth of this kind may, like one produced in or external to the synovial membrane, become detached and set free in the joint. Rokitansky's views as to this mode of origin of loose bodies have been supported by Luschka and Virchow. The loose bodies thus produced have each usually the shape of a bean or a kidney, and present three convex surfaces and one short concave surface; they are smooth, firm, and elastic, and vary between the size of a small bean and that of a walnut. Each body is composed mainly of hyaline cartilage, with a few dry spots of calcification and small deposits of porous bone; the cortical portion presents fibro-cartilage. In some rare cases there is a small irregularly shaped cavity in the centre of the loose body, which cavity is filled by viscid synovia-like fluid. A loose body of this kind often presents a persistent stalk, or, more frequently, a trace of such. The body, when dried, shrinks into a small shapeless mass with uneven surfaces. The development of the loose bodies from tufts of synovial membrane is usually preceded by some inflammatory affection of the joint that is associated with intra-articular effusion of fluid.

The final variety of loose articular body is that produced by the breaking away, into the cavity of a joint affected with chronic arthritis deformans, of a piece of degenerated or pathologically developed bone, or of an enchondrosis. This form is rarely met with. The

loose body thus produced, though usually quite free, is seldom observed during the life of the patient, in consequence of its symptoms being obscured by those of the chronic inflammatory condition of the joint. Such specimens as have been described had been found during *post mortem* examination. The growth may consist either of true bone covered by a layer, more or less thick, of cartilage, or of cartilage studded with osseous deposits. The loose body thus formed has a very irregular form, is usually large, and often presents a distinct trace of fracture on one of its surfaces or margins. In some very rare instances, the broken off piece of bone or cartilage remains in contact with its former point of attachment, and becomes loosely connected with this by means of a kind of false joint. The author describes two pathological instances of this condition.

The treatment of loose bodies in joints, Professor Fischer states in concluding his article, has, through the grand and inestimable reformation effected in surgery by the antiseptic method, attained a final solution. Whilst formerly the various methods of operation were anxiously compared and considered, at the present day no surgeon hesitates to prefer over all other proceedings that of incision into the affected joint, and immediate extraction of the loose body, under antiseptic precautions. Professor Fischer operates in such cases without the use of the spray, but is careful to cleanse with solution of carbolic acid the seat of the operation and all the required instruments, and in most instances treats the joint with Lister's dressings. The joint is not washed out and is not drained; the wound is closed by suture. M. Lucas-Championnière has reported a case in which the joint was washed out with a five per cent. solution of carbolic acid, and then drained. No marked local or general reaction followed this practice. Professor Fischer thinks that injection and drainage are unnecessary in this operation, since the instruments used hardly reach the interior of the joint. No serious local or general symptoms have followed the operation in any of the author's cases; and in all, with but one exception, the joint remained movable and capable of performing all its functions. In most of the cases, some swelling and tenderness of the joint were noted on the third day. These phenomena usually disappeared in the course of a few days, either spontaneously or after the removal of the sutures, and a free discharge of secretion from the wound. The average duration of such treatment is one month. The surgeon, Professor Fischer remarks, should always bear in mind the caution given by M. Tillaux against rashly making an opening into the articulation of the knee; but, with the brilliant results of Lister's method, it is hardly necessary to warn the patient that the removal of a loose body from this joint is a very serious operation. Diseased joints tolerate operative interference much better and more readily than joints that are quite sound.

W. JOHNSON SMITH.

MEDICINE.

RECENT PAPERS.

1. SAVAGE, G. H.—The Nervous Symptoms of Myxcedema. (*Journal of Mental Science*, Jan. 1880.)
2. FOVILLE, A., and McDOWALL, T. W.—Syphilis as a Cause of General Paralysis. (*Journal of Mental Science*, Jan. 1880.)
3. ASCHARUMOFF.—On the Estimation of Degrees of Paralysis. (*Irrenfreund*, Dec. 1879.)

4. ERB.—Syphilis as a Cause of Tabes Dorsalis. (*Irrenfreund*, Jan. 1880.)
5. McDOWALL, T. W.—Diffused Cerebral Sclerosis. (*Journal of Mental Science*, Jan. 1880.)
6. ALCON.—An Undescribed Eye Symptom in Glycosuria. (*El Siglo Medico*, Jan. 1880.)
7. RIOS, MONTERO.—Progressive Muscular Atrophy. (*El Genio Medico-Quirurgico*, No. 1275.)
8. FAZIO, FERDINANDO.—On Simple Polyuria depending on Cerebral Tumour. (*Il Morgagni*, Sept. 1879.)
9. LUIGI, L.—On a Case of Facial Neuralgia. (*Bullettino delle Scienze Mediche*, Jan. 1880.)
10. TEALE, JOHN W.—On Abnormally High Temperature. (*British Medical Journal*, Jan. 1880, p. 176.)
11. BARNES, J. J. F.—The Clinical Import of Icterus in Pregnancy. (*British Medical Journal*, Jan. 1880, p. 127.)
12. WALKER, C. E.—Scarlet Fever inducing Labour without Puerperal Fever. (*Ibid.*, Jan. 1880, p. 53.)—DAY, W. H.—Same Subject. (*Ibid.*, p. 127.)
13. ALLEBUTT, T. CLIFFORD.—The Use of the Stomach-Pump in treating Gastric Dilatation. (*Ibid.*, Feb. 1880, p. 315.)
14. SNEDDON, W.—On Dilatation of the Stomach successfully treated by the Syphon Stomach-Tube. (*Ibid.*, Jan. 1880, p. 51.)
15. DONKIN, H.—Tooth-grinding and Gout. (*Ibid.*, Feb. 1880, p. 279.)
16. HEATH, K. E.—Glycosuria with Low Specific Gravity. (*Ibid.*, Feb., p. 280.)
17. ORD, W. M.—Some of the Conditions included under the general term Rheumatoid Arthritis. (*Ibid.*, Jan. 1880, p. 155.)
18. ROSER.—Diabetes and Sepsis. (*Deutsche Medicin. Wochenschrift*, Jan. 3 and 10, 1880.)

1. *Savage on the Nervous Symptoms of Myxo-œdema.*—The affection termed myxoœdema, a cretinoid state supervening in adult women, has been previously described by Sir William Gull and Dr. Ord. It consists essentially in a deposit of a peculiar mucoid tissue, first noticed in the skin, but eventually affecting all parts of the body. The patients have puckering about the eyelids, and apparent œdema, which usually leads to the suspicion of albuminuria. The face assumes a shape that is well described by the term cretinoid, the lips become thick and extended; the cheeks over the malar bones have bright congested capillaries; the alæ nasi are thick. The skin of the whole body is dry and harsh, and the temperature below normal. Dr. Savage now describes (*Journal of Mental Science*, Jan. 1880) the following nervous symptoms as being associated with the disease. The expression is dull; a slowness in appreciating and answering questions is apparent; speech is slow and peculiar, and the memory defective. The gait is staggering, though there is no 'limb-paralysis'. The patients feel their increasing feebleness and become distressed, nervous and perplexed; they feel wretched and tired of life. There are perversions of taste and smell, but these do not usually amount to hallucinations. Some patients are described as subject to delusions and illusions, also as being restless at night, and talking much to themselves. One case was distinctly maniacal. An important question arises as to whether the mental dulness is due (1) to the padding of the peripheral extremities of the nerves causing a kind of starvation of the nervous centres; or, (2), to primary disease of, or nutritional changes in, the brain itself. Dr. Ord favours the former view, while Dr. Savage inclines to the latter.

2. *Foville and McDowall on Syphilis as a Cause of General Paralysis.*—Dr. Foville's paper, as it appears in the *Journal of Mental Science*, Jan. 1880,

has been translated by Dr. McDowall, who has added some interesting observations of his own. Dr. Foville relates the case of an officer who presented typically all the symptoms of general paralysis, and died after a well-marked stage of dementia and paralysis. The only unusual symptom exhibited was left hemiplegia. The necropsy showed that the lesions characteristic of the disease were completely absent; but, in the interior of the hemispheres, there were multiple tumours, apparently syphilitic. It was afterwards ascertained that the patient had suffered from syphilis; tertiary symptoms having shortly preceded the mental disease. The author expresses the conviction that the diagnosis between general paralysis and syphilitic tumours of the brain is extremely difficult, if not altogether impossible. Lanceux had said almost as much in 1873. Müller, Huguenin, Erlennmeyer, Mickle, and others, have drawn attention to the part played by syphilis in the etiology of general paralysis. The author fully recognises this, and criticises the views of Fournier, who has recently described a number of true cases of general paralysis, due to syphilis, as 'pseudo-general paralysis of syphilitic origin'. In these cases, not only the symptoms, but the *post mortem* appearances were those of true general paralysis. Dr. Foville would prefer that the name of pseudo-general paralysis should be reserved for cases like that described above, in which syphilitic tumours, insulated in the cerebral hemispheres, lead to a collection of symptoms so like those of general paralysis, that a differential diagnosis is impossible. Dr. McDowall states that his experience leads him to regard syphilis as the most important cause of general paralysis. He gives excellent reasons for this view, and, though his statistics do not deal with sufficiently large numbers to admit of conclusions being drawn from them, he feels sure that they point to the probability that, in the great majority of cases, perhaps eight in ten, syphilis is the cause of general paralysis. It is very desirable that this important question should become the subject of careful and general inquiry.

3. *Ascharumoff on the Estimation of Degrees of Paralysis.*—The author describes (*Irrenfreund*, Dec. 1879) an apparatus for the purpose of suspending a limb by means of cords passing over pulleys and fastened to weights. The mode of using it is as follows. The patient lying in bed, the apparatus is applied to the sound leg, and the weight (A) necessary to raise the limb to a certain height (Q) is accurately ascertained; during this part of the observation, the patient must not make any muscular exertion whatever. The apparatus is now applied to the paralysed leg, and while the patient strives to raise the limb, weights are gradually applied to assist him. The weight necessary to enable the patient to lift his leg to the height (Q) is thus ascertained, and the proportion which it bears to the weight (A) is the measure of the degree of paralysis. [This method would not be available for measuring slight degrees of paresis, in which the patient is able unaided to raise his limbs from the bed. Another source of fallacy seems to be, that no account has been taken of the difference of the weight of the two limbs often caused by wasting on the paralysed side.—*Rep.*]

4. *Erb on Syphilis as a Cause of Tabes Dorsalis.*—The author has previously drawn attention to the frequency with which a history of syphilis may be obtained in cases of tabes (*Deutsches Archiv für Klin. Med.*, Band xxiv). He now reports (*Irren-*

freund, Jan. 1880), from a series of fresh observations, that out of 33 typical cases, he only found 4 without previous syphilitic infection. Of the other 29, 24 had had secondary symptoms, and the remaining 5 a primary sore only. In order to show that this history is special to tabes, the author carefully examined 85 male patients over 25 years of age, suffering from various other nervous disorders, for previous syphilis or chancre. Of these, 71 had never had the disorder, leaving only 14 who had. The proportions are these: of the 33 cases of tabes, 88 per cent., and, of the 85 cases of other nervous diseases, 14 per cent. only, had had syphilis. The time at which the tabes supervened is thus given: within 4 years of infection, 5 cases; from 4 to 10 years, 18; from 11 to 12 years, 3; many years later, 3. In most of the cases it was observed that the syphilitic symptoms had not been of a severe nature. The author states that symptoms of syphilitic disease of the brain should be carefully sought for in all cases of tabes. He regards the question whether syphilis is merely a predisposing, or a direct cause, as still open, but inclines to the latter view, and considers that two classes of cases should be recognised, the specific and the non-specific. In a number of the syphilitic cases, active antisyphilitic treatment had been followed by improvement or arrest of the disease; prognosis must, however, be most guarded, for syphilitic sclerosis are always highly intractable, and there is probably an actual lesion of nerve-tissue which is known to have little or no power of repair. In a discussion which followed the reading of the author's paper, Dr. Mayer stated that, among 29 cases of tabes, he had only found three without any history of syphilis.

5. *McDowall on Diffused Cerebral Sclerosis*.—The author relates the following case (*Journal of Mental Science*, Jan. 1880). W. B., the eldest of six children, was strong and healthy until fifteen years of age, at which time he sustained a severe injury to the left occipital region. He was able to walk home after the accident, but, within a short time, had a succession of severe fits; these recurred at irregular intervals during the next six months, during which period his mind gradually became weak. Mental and bodily improvement now supervened, so that the patient was almost fit for work again. A year later, he awoke one morning with left hemiplegia; from that time until his death, eighteen months afterwards, he became steadily worse. Speech and other manifestations of intelligence gradually disappeared; he was dirty in his habits, shouted much at night, and tried to eat his clothing. The limbs were all contracted, and grinding of the teeth was almost constant. Three days before death, he had two severe fits. After death, a punctured depression of the left frontal eminence was seen, which, however, affected only the outer table of the skull. The intracranial fluid was increased, the membranes opaque, and everywhere adherent to the convolutions. The consistence of the brain was altered throughout; this was especially marked in the convolutions of the frontal and parietal regions, which felt quite hard. General atrophy of the hemispheres was apparent. Between the striate body and optic thalamus on the right side, was a patch of yellow softening. The author has observed in this and other cases that the grey matter is more affected by the sclerosis than the white; this directly traverses Pinel's statement that the process does not invade the grey matter. Microscopic preparations of the frontal convolutions presented the usual appearance

of sclerosis, and were also found to be studded with the curious bodies first described by Dr. Batty Tuke as miliary sclerosis. The chief appearances are thus described: 1. The fibrous transformation of the outer part of the first layer of the cortex; 2. Large and numerous Deiter's cells in the same region; 3. Spots of miliary sclerosis scattered throughout the grey matter. It is to be noted that all previously recorded cases in which the diagnosis has been verified by *post mortem* examination have occurred in idiots, the disease commencing in early infancy. The case now recorded shows, however, that this is not invariably the case. C. S. W. COBBOLD, M.D.

6. *Alcon on an Undescribed Eye-Symptom in Glycosuria*.—The author calls attention (*El Siglo Medico*, Jan. 1880, No. 1361) to a case of diabetes in which he observed a symptom hitherto undescribed, namely, a diminution in the refractive power of the eye. The patient was a woman, aged 61, of healthy antecedents, in whom symptoms of glycosuria became developed after an injury. Simultaneously, sight became impaired, and glasses that had hitherto sufficed for reading were now found to be too weak. There was a manifest hypermetropia of 1.25 D, and vision was reduced to one half. At this period, the amount of sugar passed daily amounted to 229.04 grammes. At successive visits the amount of sugar was found to be steadily decreasing, and, *pari passu*, the hypermetropia also. Finally, five months after the first examination, it was found that the eyes were once more emmetropic, while every particle of sugar had disappeared from the urine. The author explains the symptoms by an alteration in the index of refraction of the vitreous humour, due to a change in its chemical composition. The vitreous body offers a concave surface to incident rays, and, consequently, its refraction is the exact reverse of that of the cornea and crystalline; therefore, any increase in its refractive power will result in a diminution of the refractive force of the eye as a whole.

7. *Rios on Progressive Muscular Atrophy*.—Dr. Montero Rios (*El Genio Medico-Quirurgico*, No. 1275) records a case of progressive muscular atrophy, apparently of syphilitic origin. The symptoms were well marked, and the case is interesting, as affording an instance of remarkable toleration of iodide of potassium. The patient, though taking 30 grammes (nearly an ounce) of the drug daily, never exhibited, except on one occasion, and for a few days, any symptoms of iodism. To this tolerance must be attributed the remarkable improvement, amounting almost to complete recovery, which followed the treatment adopted.

8. *Fazio on Simple Polyuria depending on a Cerebral Tumour*.—Dr. F. Fazio relates (*Il Morgagni*, Sept. 1879) the case of a female, aged 21, who, previously to coming under the author's notice, had suffered for a period of three years from excessive thirst and polyuria, with occasionally vague pains in the head. There was present a constant relation between the amount of fluid imbibed and of urine passed, the specific gravity of which was 1002, both albumen and sugar being absent. The quantity averaged 8 litres in the twenty-four hours. The only nervous symptoms noticed during life—and they occurred very shortly before death—consisted in slight headache with dimness of vision. No ophthalmoscopic examination was made. The necropsy showed that a tumour of a sarcomatous nature, and about the size of a chestnut, occupied the base of the brain at a spot corresponding to the *sella turcica*.

It had caused complete degeneration of the optic chiasma, and had encroached considerably on the circle of Willis. The cerebral substance generally was anæmic, but the condition of the ventricles was, to all appearance, normal. The author considers the case as important, inasmuch as it sheds a considerable light on the purely nervous origin of simple polyuria. He reviews the literature of the subject very fully, and concludes that, in the present state of knowledge, the view that diabetes insipidus is essentially a disease of nervous origin is, on the whole, preferable to any other.

9. *Luigi on a Case of Facial Neuralgia.*—This case (*Bulletino delle Scienze Mediche*, Jan. 1880) is interesting from the length of time the affection lasted, its severity, and the readiness with which it yielded at length to specific treatment. The second and third branches of the fifth nerve on the right side were affected. All treatment proved unavailing, although faradisation gave comparatively most relief, until, as a last resource, the author prescribed iodide of potassium, with mercurial friction, on the soles of the feet. Within three weeks, a complete cure resulted. There was no reason, *primâ facie*, to suppose the existence of a specific cause in the case; but, in view of the facts, the author considers that such must have actually been present. He classes the case as belonging to the transitory period of simple irritative changes of indefinite duration, which separate the secondary symptoms from the more profound lesions of the tertiary stage. In the above case, the poison was as it were latent, and was insufficient to cause any marked tissue-changes, while, at the same time, its presence induced special modifications in nutrition, perhaps through the agency of the lymphatic glands. LITTON FORBES.

10. *Teale on Abnormally High Temperature.*—Mr. Teale again draws attention (*British Medical Journal*, Jan. 1880, p. 126) to the remarkable case of high temperature, after a spinal injury, occurring in a young lady, the particulars of which he placed before the Clinical Society in 1875. The thermometer rose as high as 122 deg., and the patient has now fairly recovered. Mr. Teale brings the subject again forward, because there are no references to the case in Dr. Donkin's recent paper in the *Journal* of December last.

11. *Barnes on the Clinical Import of Icterus in Pregnancy.*—Mr. Barnes (*British Medical Journal*, Jan. 1880, p. 127) explains the occurrence of jaundice in pregnant women by the supposition 'that the vital force of the economy as a whole has not sufficient potentiality for the due performance of the animal functions, under the access of the fresh conditions caused by the pregnant state. The liver, owing to its proximity to the disturbing factors, suffering local congestions and other abnormal interferences with its functions, is the organ most likely to yield to pressure put upon it.'

12. *Walker and Day on Scarlet Fever inducing Labour without the Advent of Puerperal Fever.*—Two cases are reported (*British Medical Journal*, Jan. 1880, pp. 53, 127) where the mothers had distinct symptoms of scarlatina previously to their accouchements, and in which the fever ran a mild course without any puerperal complications.

13. *Allbutt on the Use of the Stomach-Pump in Treating Gastric Dilatation.*—With the aid of Dr. Jacob, of the Leeds Infirmary, Dr. Clifford Allbutt (*British Medical Journal*, Feb. 1880, p. 315) treated five cases of dilatation of the stomach with the syphon-tube or stomach-pump, after having given a fair

trial to hygiene and medicines: of the latter, Carlsbad salts was the only one that seemed to highly recommend itself, its effect being to sweep the digestive tube clean, and favour the passage of its contents from above downwards. Four of the cases recovered. In a case of pyloric cancer, great relief was obtained. No repugnance was exhibited to the introduction of the tube after the relief it afforded had been once experienced, and Niemeyer's picture was completely realised, of the impatient sufferer, tired of waiting for the doctor's arrival, begging the assistant to operate forthwith.

14. *Sneddon on Dilatation of the Stomach successfully treated by the Syphon Stomach-Tube.*—Dr. W. Sneddon relates the following case in the *British Medical Journal*, January 1880, p. 51. A man, aged 48, who had suffered from gastric disturbances for many years, exhibited in April 1879 distinct symptoms of dilatation of the stomach. The syphon-tube was passed, and a pint of sour turbid fluid evacuated. In seventeen days the tube was passed daily with manifest advantage. Subsequently it was used every third or fourth day, and on each occasion a drachm of carbonate of soda in a pint of warm water was used to wash out the stomach. The patient was discharged cured after three months, and has since continued well.

15. *Donkin on Tooth-Grinding and Gout.*—Dr. Horatio Donkin (*British Medical Journal*, Feb. 1880, p. 279) gives the history of eight children, offsprings of a gouty father, and of a mother whose grandmother and mother suffered severely from the same disease. They all grind their teeth so incessantly during the night, that the conjoint noise made is painfully audible outside the bedroom doors. The eldest is twenty years old; the youngest ten months. As tooth-grinding was mentioned by Dr. Graves in 1836 to be common in the gouty diathesis, these cases are interesting.

16. *Heath on Glucosuria with low Specific Gravity.*—Dr. R. E. Heath (*British Medical Journal*, Feb. 1880, p. 280) quotes a companion case to Dr. S. O. Habershon's, reported in the *Journal*, Feb. 7, p. 208. A gentleman, aged 61, diabetic for five months, passed five to six pints of urine in twenty-four hours, of specific gravity 1008 to 1010.

17. *Ord on some of the conditions included under the general term Rheumatoid Arthritis.*—In a very instructive paper, read before the East Surrey District Branch of the British Medical Association, Dr. Ord (*British Medical Journal*, Jan. 1880, p. 155) directs attention to this disease, the various synonyms of which are fully set forth. He would restrict the term 'Rheumatic Gout' to the popular designation of the local malady, dropping the word rheumatoid altogether in the general classification of arthritis, referring the condition to its proper cause, local or remote, such as 'blennorrhagic', 'urethral', 'rheumatic' 'arthritis', etc. Rheumatic gout may be defined as a persistent or progressive inflammation of one or more joints, in origin neither rheumatic, nor gouty, nor scrofulous, nor in any way specific; which has for its results atrophic changes in articular cartilages and articular ends of bones, and hypertrophic changes in synovial membranes and adjoining periosteum and cartilage. The relation of arthritis to gonorrhœa and urethritis is shown to be due, not to any specific poison, but to reflex nervous influence, just as reflex paraplegia may be due to urethritis; and from this stand-point Dr. Ord proceeds to argue that the cause of rheumatic gout being much more frequent in women, accord-

ing to many observers, than in men, is the reflex influence of utero-ovarian irritation. Dr. Ord reports cases in which temporary joint-affections have attacked the patient at each menstrual period, when, the utero-ovarian disease existing being cured, all joint-troubles have passed away. This relationship did not escape the observation of Dr. Todd, who alluded to it in his Croonian Lectures, 1843. Dr. Ord reports the following highly instructive case. A single lady, aged 47, had, at the age of forty, cut the end of the index finger of the left hand. The cut was exceedingly painful, and healed imperfectly. Before it healed, the last joint of the same finger became inflamed and swollen. Soon afterwards, the rest of the knuckles of the same hand were involved. Three years later, the left foot was attacked, then the right, and at last the right hand. There were no gouty concretions anywhere; no blood-poisoning, no catamenial disorder. Later on, the catamenia ceased without giving trouble. The whole paper is well worth perusal, being suggestive as well as instructive.

R. NEALE, M.D.

18. *Roser on Diabetes and Sepsis.*—In this paper (*Deutsche Medicin. Wochenschrift*, Jan 3 and 10, 1880), the author calls special attention to the occurrence of gangrenous or ulcerative processes in patients suffering from diabetes. As a rule, in cases of gangrene occurring without any definite cause, the tendency is to attribute it to some septic agency. Roser, however, points out that, in these cases, diabetes is often present, and, where this is the case, he states that a cure may be obtained by attention to diet, etc., without any special antiseptic measures. In support of this view, he cites a case from his own practice of progressive gangrenous inflammation of the foot cured by antidiabetic diet; other cases occurring in his own practice, in that of Küby, Marchal, and others. Reference is also made to cases of sudden death, which often occur in diabetic cases, and which may happen after even slight operations. He confirms Marchal's statement that, 'in cases of obstinate furuncular eruption of carbuncle, diffuse phlegmonous inflammation, gangrene, etc., the urine should always be examined for sugar'.

W. WATSON CHEYNE.

THERAPEUTICS AND PHARMACOLOGY.

1. RALFE, C. H.—Treatment of Chronic Dysentery. (*Lancet*, Feb. 1880, pp. 241, 321.)
2. BARTON, G. K.—Treatment of Rheumatism by Iodide of Potassium and Opium. (*Lancet*, Feb. 1880, p. 265.)
3. JACOB, ERNEST H.—Salicylate of Soda in Rheumatism. (*Lancet*, Feb. 1880, p. 265.)
4. BYRNE, W. S.—On Calomel Fumigation. (*Lancet*, Jan. 1880, p. 128.)
5. WEEKES, HENRY, CHAPPELLE, M., and PECHOLIER, M.—On Carbolic Acid in Typhoid Fever. (*Lancet*, Feb. 1880, p. 351; *L'Union Médicale*, No. ciii; and *Lancet*, April 1869, p. 471.)
6. TWEEDY, JOHN.—Diphtheritic Ophthalmia treated by Solution of Quinine locally. (*Lancet*, Jan. 1880, pp. 125, 287.)
7. PARK, R.—The Treatment of Exophthalmic Goitre by Hypodermic Injection of Morphia. (*Practitioner*, March 1880.)
8. MACKENZIE, S.—Aconite as a Diuretic. (*Ibid.*, January 1880.)
9. RINGER, SYDNEY, and MURRELL, WILLIAM.—Tonga as a remedy for Neuralgia. (*Lancet*, March 1880, p. 360.)

10. DE LA MOTTE, PETER W.—On Serious Collapse from Chloral and Bromide of Potassium combined with Opium. (*Lancet*, March 1880, p. 389.)

11. ROGERS, G. GODDARD.—On Flitwick Water. (*Brit. Medical Journal*, Jan. 1880, p. 13.)

12. MACKENZIE, G. HUNTER.—On the Antiseptic Treatment of Phthisis. (*British Medical Journal*, Jan. 1880, p. 13.)

13. EASBY, W.—Iodoform in Healing Ulcers. (*Ibid.*, March 1880.)

14. Cinchona Rubra as a Cure for Drunkenness. (*Ibid.*, January 1880.)

15. BERKART, I. B.—Quebracho in Dyspnoea. (*Ibid.*)

16. CLAY, JOHN.—Treatment of Cancer by a New Method. (*Lancet*, March 1880.)

1. *Ralfe on the Treatment of Chronic Dysentery.*—Dr. C. H. Ralfe (*Lancet*, February 1880, pp. 241, 321) gives his experience of the treatment of this most formidable and intractable disease. Long experience at the Seamen's Hospital had proved that those cases of chronic dysentery did best that were least exposed to the artillery of therapeutics; an occasional dose of castor-oil to sweep out scybalous matter, and careful attention to diet, producing the best results. Dr. Ralfe decided to try the effects of regularly administering castor-oil, not merely to remove scybalous matters, but to prevent their accumulation. Thirty-eight cases were thus treated, of which twenty-one had suffered from the disease, before admission, for an average of 21.7 months. Sixteen cases were discharged cured, twenty were relieved, and in one there was no improvement. The dose of oil given was, in twenty-one cases, two drachms every alternate night; six of these were discharged cured. In the remaining cases, seventeen in number, half an ounce of oil was given twice a week, and eleven were discharged cured. Each dose of oil was guarded with eight drops of laudanum. The first effect of the oil is to improve the character of the stools; then they gradually, after the first or second week, diminish in number. Relapses frequently occur, and are best met by the prompt administration of scruple doses of ipecacuanha. Too much importance cannot be laid upon the necessity of watching for the earliest indication of a relapse; for on its early recognition and prompt arrest depends the ultimate success of all treatment in chronic dysentery. Fourteen cases were healed with castor-oil alone, two drachms being given every alternate night, or half an ounce twice a week; in each case guarded by eight drops of laudanum. Three of these were discharged cured, ten relieved, and one derived no benefit. The average duration of treatment was—in cases cured, 37.6 days; in cases relieved, 42.4 days; the case unrelieved was discharged in 10 days at his own request. In nine cases, bismuth was combined with the castor-oil treatment; of these, five were cured in an average of 38.8 days, and four relieved in 20.7 days. In eleven cases, decoction of hæmatoxylon was given thrice a day, curing seven in an average of 23.1 days, and relieving four in 47.5 days. In four cases, turpentine was combined with the oil treatment, two cases being cured and two relieved. In a review of the cases, it was found that the most satisfactory results were obtained with half an ounce of castor-oil, administered twice a week, and a mixture of logwood given thrice a day. The bismuth acts by diminishing the catarrh of the mucous membranes in the neighbourhood of the ulcerations; the logwood by restraining undue peristaltic action, allowing digestion to be more completely performed. Rest and strict attention to diet

are essential aids in the cure of chronic dysentery. Exposure to cold and damp almost invariably causes a relapse.

2. *Barton on the Treatment of Rheumatism by Iodide of Potassium and Opium.*—Dr. G. K. Barton (*Lancet*, February 1880, p. 265), after an experience of thirty years, upholds the value of this mode of treatment, a mode that never causes disappointment, and that cures, within a week or ten days, even acute cases of articular rheumatism. Mustard plasters, applied the first day pain is felt, will stop rheumatism at once without medicine; where mustard fails, blisters may be used. The iodide is used by Dr. Barton in large doses—five to twenty grains every three hours, with ten grains of Dover's powder at night.

3. *Jacob on Salicylate of Soda in Rheumatism.*—Mr. Ernest H. Jacob (*Lancet*, February 1880, p. 265), referring to the correspondence that has lately taken place, relative to the depressing effects of salicylate of soda on the heart, causing, as it is asserted by several observers, sudden death, assures the profession, after an extended experience, that no harm can be done by fifteen-grain doses, nor from double that amount, if reasonable care be taken. Dr. MacLagan (p. 327) utters a warning against the use of salicylic acid and its compounds, asserting that salicin does not cause any depression of the heart's action.

4. *Byrne on Calomel Fumigation.*—Mr. W. S. Byrne (*Lancet*, January 1880, p. 128) brings to the notice of the profession an ingenious method of fumigating the throat. It consists of a glass tube on which is blown a bulb to hold the calomel, a sponge soaked in spirit, which is hung with wires underneath, and to the end of the tube is attached an ordinary spray-bellows. So soon as the calomel is volatilised by the heat, the fumes are blown into the throat by the action of the spray-bellows.

5. *Weekes on Carbolic Acid in Typhoid Fever.*—Mr. Henry Weekes (*Lancet*, February 1880, p. 351) speaks very enthusiastically of the use of carbolic acid internally in the treatment of a well-marked case of typhoid fever, and thinks it justifies a reconsideration of Sir W. Jenner's well-known dictum, that it is not possible to cut short typhoid fever. Six minims of carbolic glycerine were administered every four hours. In forty-eight hours, the temperature sank from 103.5 deg. to 99 deg. [In *L'Union Médicale*, No. 103, M. Chappelle asserts that tar-water, freely imbibed, and also used as a lavement, is able to cut short the typhoid state in two or three days, and to cure true typhoid fever in eight or ten days. In the *Lancet*, April 1869, p. 471, is a statement on the authority of M. Pécholier of Montpellier that, in sixty cases, the vast value of creasote, both internally and in enemata, was most marked.—*Rep.*]

6. *Tweedy on Diphtheritic Ophthalmia treated by Solution of Quinine locally.*—Mr. John Tweedy (*Lancet*, January 1880, pp. 125, 287) reports a well-marked case of diphtheritic conjunctivitis, in which, although there was every reason to fear that the eyes would necessarily be lost, owing to the extent and severity of the disease, yet, by the persevering use of compresses, saturated with a solution of quinine, three grains to the ounce, with a free syringing of the conjunctivæ every two hours with the same solution, a perfect cure was eventually the reward of the mother's assiduous care. Mr. Tweedy was induced to try quinine on account of its well known antiphlogistic powers, especially as seen during inflammatory processes taking place in the cornea.

7. *Park on the Treatment of Exophthalmic Goitre*

by *Hypodermic Injections of Morphia.*—Mr. R. Park (*Practitioner*, March 1880, p. 188) gives an account of an extreme case of exophthalmic goitre, in which morphia injected hypodermically for some weeks had a marked beneficial effect, so that the report concerning the patient after twelve months was 'quite well and going about'. He considers its *modus operandi* to be chiefly by increasing the inhibitory function of the pneumo-gastric nerve. Its action may have various explanations, viz.: 1. Induction of congestion in the supreme centres intensifying their inhibitory function in all the lower; 2. Induction of anæmia of the congested sympathetic ganglia directly, thereby allowing the normal action of the pneumo-gastric to have full sway; 3. Or, it might be supposed to indicate congestion of the pneumogastric nucleus, thereby stimulating it and raising its inhibitory powers above their normal. Whatever may be the physiological explanation, the effects of morphia on excited cardiac action, either of reflex or of central origin, are very marked. These effects require often large doses to produce, and they cannot be maintained by administering the drug by the mouth.

8. *Mackenzie on Aconite as a Diuretic.*—Dr. S. Mackenzie (*Practitioner*, January 1880, page 1) had a selected series of hospital cases under careful observation for the purpose of testing to what extent (if any) aconite might be able (1) to maintain the action of the kidneys, and (2) to evacuate fluid. In the first series of cases, five in number, there were four patients suffering from 'morbus cordis', and one from chronic Bright's disease. In every instance, the amount of urine passed under the influence of the drug was distinctly diminished, thus showing that aconite is totally inert as a diuretic in cardiac or renal disease. The next series of cases, also five in number, consisted of patients suffering from some febrile form of phthisis without any cardiac or renal complication. In all these there was a decided increase in the quantity of the urine, ranging from 2.9 ozs. to 9 ozs. daily. The quantity of water administered with the drug could have little effect on the amount of urinary secretion, for one teaspoonful was the maximum given at a time.

9. *Ringer and Murrell on Tonga in Neuralgia.*—Some months ago, Mr. Ryder, a gentleman residing in Fiji, brought home a drug, used by the Fijians in cases of neuralgia. It consists of parts of at least two unknown plants, botanical specimens of which Mr. Ryder hopes to secure on his return to Fiji, so that their natural order, etc., may be known. Experiments, in eight cases, proved successful in six, very promptly; one was much improved; the other failed. Tonga does not affect the pupil when topically applied, nor increase nor lessen either perspiration or saliva.

10. *De la Motte on Serious Collapse from Chloral and Bromide of Potassium combined with Opium.*—Mr. De la Motte makes (*Lancet*, March 1880, p. 389) an important observation, should further experience prove it to be correct; viz., that opium, given after the use of chloral and bromide of potassium, has, on more than one occasion, been followed by fatal collapse.

11. *Rogers on Flitwick Water.*—Dr. Goddard Rogers draws attention (*British Medical Journal*, January 1880, p. 13) to the great value of the Flitwick chalybeate, found in a village two miles from Ampthill in Bedfordshire. It is rich in iron, containing 144 grains of the oxide and carbonate per gallon. Cases have improved while taking this water which had resisted all previous modes of administer-

ing steel, and Dr. Rogers trusts that it will be more extensively tried.

12. *Mackenzie on the Antiseptic Treatment of Phthisis.*—Dr. G. Hunter Mackenzie (*British Medical Journal*, January 1880, p. 13) wishes to bring to notice the advantage he has derived, in several cases of inflammatory phthisis, from the constant inhalation of carbolic acid and creasote. A form of inhaler, resembling the one devised by Dr. Roberts of Manchester, enables this method to be easily carried out. [In the *Medical Times and Gazette*, May 1853, p. 507, Dr. Thomas Inman reported several marked cases where vast improvement followed the use of creasote inhalations, and since that date many observers have testified to the value of carbolic acid and creasote inhalations.—*Vide Medical Digest*, section 698.—*Rep.*]

13. *Easby on Iodoform in Healing Ulcers.*—The value of iodoform in healing ulcers is illustrated (*British Medical Journal*, March 1880, p. 362) by the report of several obstinate cases rapidly cured by Dr. W. Easby with iodoform dusted over their surface. [Mr. B. Hill, in the *British Medical Journal*, Jan. 1878, p. 127, described the wonderful effects produced by iodoform on different forms of ulceration, specific and non-specific. Dr. Mandelbaum, in the *Medical Times and Gazette*, April 1878, p. 371, states that 'all ulcers of the leg and elsewhere, whatever their character, age, and extent, can be cured by iodoform'.—*Rep.*]

14. *Cinchona Rubra as a Cure for Drunkenness.*—E. H. F., who first introduced this remedy into England, states (*British Medical Journal*, Feb. 1880, page 271) that if pure it is valuable, especially if administered without the patient knowing why he is taking it, or by leading him to suppose it is to cure some heart or other disease. Under these circumstances, it destroys the drink-craving and creates a disgust for stimulants.

15. *Berkart on Quebracho in Dyspnoea.*—Having tried this drug in cases of dyspnoea, associated with emphysema of the lungs, atheroma of the arteries, and degeneration of the cardiac muscles, Dr. I. B. Berkart (*British Medical Journal*, Jan. 1880, page 167) has found it of marked value in relieving, very speedily, the dyspnoeal distress.

16. *Clay on Treatment of Cancer by a New Method.*—Mr. John Clay of Birmingham, in the *Lancet*, March 1880, p. 477, asserts that he has seen results, that appear at first sight simply wonderful, follow the use of Chian turpentine, in many cases of cancer, more especially when affecting the female genital organs. A woman, aged 52, was suffering from scirrhus of the cervix and body of the uterus, which was so extensively destroyed as to admit, readily, three fingers into its cavity. Hæmorrhage was excessive, pain in the back and abdomen was agonising; the cancerous cachexia was well marked. Six grains of Chian turpentine, and four grains of flowers of sulphur, were given, in two pills, every four hours. No opiates were administered, nor was any change made in diet. On the fourth day the patient reported herself greatly relieved from pain, was in better spirits, but had a large amount of discharge. On examination, the vagina was found filled with a dirty-white secretion, so tenacious as to be capable of being pulled out rope-like. The os was quite contracted, and would now scarcely admit the finger, and the surrounding cancerous infiltration was much reduced. On the twelfth day the thick tenacious secretion had almost disappeared, and was

succeeded by a somewhat copious serous fluid. The general health improved. In the twelfth week the parts felt rugged and uneven, and did not bleed on roughly handling them. The speculum showed several cicatricial spots. She walked easily a mile and back. She did not report herself afterwards. Another patient, aged 31, had carcinoma of the os and cervix as large as a hen's egg. The os was dilated; the cavity of the cervix was filled with epithelial growths, bleeding freely on examination. After taking the pills, as above, for seven days, marked improvement was felt. All pain had passed away. The os and cervix were found to be of normal size. The os was patulous and studded with flabby, shot-like eminences, which did not bleed. On the fourth week she reported herself as well. After four months she was casually met with, and no trace of cancer found on examination. The turpentine had literally melted it away in four weeks. In a third case of epithelial cancer of the os, cervix, and body of the uterus, in a woman aged 52, the mass was as large as a cricket-ball, almost filling, not involving, the vagina. On the fourteenth day, marked improvement was noted. By the sixth week the surface of the tumour was at the level of the os uteri, and seemed to consist of a mass of blood-vessels that bled freely after examination. At this time a mixture of Chian turpentine was substituted for the pills, viz., Chian turpentine, two drachms, dissolved in half an ounce of ether; solution of tragacanth, four ounces; syrup, one ounce; flowers of sulphur, forty grains; water to sixteen ounces; one ounce thrice a day. After thirteen weeks' uninterrupted use of the drug, the os uteri was little more than an inch in diameter, and felt like a ring of cartilage about a quarter of an inch thick. The tumour had nearly disappeared; her general health was much improved: she was free from pain, and becoming stout. In the nineteenth week she was fairly convalescent, the growth had almost disappeared, and the parts beyond the os uteri were almost normal to touch. The fourth case was that of a woman, aged 32, who had been discharged as incurable from the Women's Hospital. For five months she had suffered severely from floodings. There was a mass of epithelial cancer, as large as a goose-egg, on the posterior part of the os and cervix. In sixteen days, after taking the turpentine mixture, this mass had almost entirely disappeared, the patient, after further treatment, being very active, cheerful and happy, indeed convalescent. Cancer of other organs seems to be also remarkably benefited by the turpentine treatment. Venice and Strasbourg turpentine have not produced the same beneficial results as the Chian turpentine. Mr. Clay concludes this paper by saying: 'Judging by my experience, it is no figurative expression to say that it acts as a direct poison upon the growth, probably causing its ultimate death.'

RICHARD NEALE, M.D.

PATHOLOGY.

RECENT PAPERS.

1. GOMBAULT.—The State of the Peripheral Nerves in Chronic Lead-Poisoning in Guinea-Pigs. (*Progrès Médical*, No. 10, 1880.)

2. LITTEN, M.—Functional Changes in the Renal Blood-Vessels, and the Albuminuria caused thereby. (*Centralblatt für die Med. Wissenschaften*, No. 9, 1880.)

3. LAFFONT.—Researches upon the Vascularisation of

the Liver and the Abdominal Viscera, with respect to the Production of Diabetes by Nervous Influences. (*Progrès Médical*, No. 10, 1880.)

4. POUILLIN, A.—On a Case of Tubercle in the Floor of the Fourth Ventricle. (*Progrès Médical*, No. 10, 1880.)

5. ORD.—A Large Gall-Stone passed *per anum*. (*Brit. Medical Journal*, Jan. 1880, p. 71.)

6. MAZZOTTI.—On Alterations in the Alimentary Tract in Pulmonary Consumption. (*Bulletino delle Scienze Mediche*, Jan. 1880.)

7. KIPPING.—Morbid Changes in the Ependyma of the Cerebral Ventricles. (*Allgemeine Zeitschrift für Psychiatrie*, Band xxxvi, Heft 6.)

1. *Gombault on the State of the Peripheral Nerves in Chronic Lead-Poisoning in Guinea-Pigs*.—M. Gombault (*Progrès Médical*, No. 10, 1880) says that the lesion may present two degrees of evolution, without the passage of the first into the second being a necessary condition. In the first stage, which corresponds to a less intense or less prolonged irritation, the neuritis, which might be called superficial parenchymatous or periaxial neuritis, affects only the protoplasm and the myelin-sheath; the axis-cylinder being preserved, the part of the tube below the diseased part is not altered. If the process go no farther, simple renovation of the nerve-fibre ensues, by the formation of young interannular segments around the axis-cylinder. If the irritation be more intense or more prolonged, the changes in the protoplasm will be more active, and the second stage is reached (deep parenchymatous neuritis). In this case, either because the growth of the protoplasm interrupts the axis-cylinder, or because the latter undergoes changes peculiar to itself which lead to its destruction, the peripheral part of the nerve-tube becomes cut off from the nerve-centres, and undergoes Wallerian degeneration. Later on, the superior portion of the tube thus divided may become the point of separation for a true regeneration of the nerve-tubes.

2. *Litten on Functional Changes in the Renal Blood-Vessels, and the Albuminuria Caused Thereby*.—Dr. Litten (*Centralblatt für die Medicin. Wissenschaften*, No. 9, 1880), confirms the observations of Posner and Ribbert, that albumen escapes through the walls of the glomeruli. He argues that the essential cause of albuminuria is dilatation of the vessels, such as is seen in the relaxation of the vessels after contraction in strychnine poisoning, or in section of the vaso-motor nerves of the kidneys. As to whether the exudation may take place from the intertubular capillaries, he has seen in cases of albuminuria from venous stasis, as after temporary ligation of the renal artery, the epithelium of the tubules pushed far out from the membrana propria by an albuminous exudation.

3. *Laffont on the Production of Diabetes by Nervous Influences*.—From experiments made upon dogs and rabbits, M. Laffont arrives at the following conclusions (*Progrès Médical*, No. 10, 1880). 1. Glycosuria, resulting from hyperglycæmia, as verified by estimating the sugar in the blood, and provoked by faradaic excitement of the central ends of the vagi nerves in the dog, of the depressor nerves in the rabbit, and the sensory nerves in general, is the result of an impression carried by these different nerves to the vaso-dilator centre within the medulla, whence arise the centrifugal fibres running in the cord to the level of the first dorsal nerves; thence to the third pair, perhaps, they pass out of the cord to join the sympathetic, and from that the great

splanchnic nerve. These researches explain the occurrence of glycosuria in cardiac disease, rheumatism, pleurisy, typhoid fever, malarial fever, and cerebral hæmorrhage, by the irritation of the sensory visceral nerves in the organs affected by these diseases. 2. The removal of the first two or three pairs of dorsal nerves suppresses the effect of the excitation of the central ends of the non-vagi and non-depressor on the circulation. This removal also suppresses the effect of puncture of the fourth ventricle. 3. The excitement of the peripheral ends of roots of the first dorsal pair on each side, produces a lowering of the arterial pressure in the abdominal organs, and demonstrates in consequence the existence of vaso-dilator nerves passing out by these roots.

4. *Poullin on Tubercle on the Floor of the Fourth Ventricle*.—M. A. Poullin relates the following case in the *Progrès Médical*, No. 10, 1880. Cathelin Olivier, aged 37, was admitted for a pleurisy of the right side, which was tapped. For three months, he had noticed inability to move the right eye outwards, at the same time he had become weaker on the right side. There had been neither loss of consciousness nor convulsion. When examined, he was thin and weak; there was some crackling under the right clavicle; harsh respiration with prolonged and blowing expiration at the left apex. The limbs on the left side were notably enfeebled; the patient could squeeze very feebly with the left hand. There was marked atrophy of the muscles of the left thigh; no contraction, no affection of sensation. On examining the face, the external rectus of the right eye was found to be paralysed; during binocular vision, the internal rectus of the left eye did not act; but when the right eye was shut, all the muscles of the left eye acted perfectly. The patient died comatose. At the necropsy, the two lungs were found filled with miliary granulations. Some caseous tubercle existed at the apices. There was a fatty deposit on the heart. There was tubercular meningitis, marked at the base, with purulent exudation and granulations in the Sylvian fissure. On section, a softened tubercle of the size of a marble was found in the cortex of the left occipital lobe; and another large tubercle in the cerebellum on the right side just below the cortex. The floor of the fourth ventricle on the right presented a notable swelling; on section, a tubercle of the size of a marble could be seen encroaching on the middle line. The tumour was situated exactly at the level of the *eminencia teres*, at the level of the nucleus of the sixth pair. The author refers to similar cases, reported by M. Graux (*De la Paralysie du Moteur Oculaire Externe, avec Deviation Conjuguée par G. Graux: Thèse de Paris, 1878*), whose pathological investigations have demonstrated that fibres emanate from the sixth pair, and pass to the internal rectus of the opposite side.

ROBERT SAUNDY, M.D.

5. *Ord on a Large Gall-stone passed per Anum*.—At a meeting of the Pathological Society (*Brit. Med. Jour.*, January 1880, p. 71), Dr. Ord exhibited a gall-stone, sent to him by Mr. Carr Roberts, measuring $1\frac{1}{8}$ inches by $1\frac{1}{2}$ inches, weighing 5 drachms. The concretion was passed by a lady shortly after her confinement. It was composed entirely of cholesterol mixed with bile-pigment, a composition never met with in true enteroliths.

R. NEALE, M.D.

6. *Mazotti on Alterations in the Alimentary Tract in Pulmonary Consumption*.—Mazotti (*Bulletino delle Scienze Mediche*, January 1880) states that, in fifty necropsies performed on patients who

had died of pulmonary consumption, he found lesions of the alimentary tract in 38; in the remaining 12, no such lesions were present. In 37 of the cases so affected the lesions consisted of ulcers situated either on the tongue, pharynx, stomach, or large or small intestine, but not in the œsophagus or rectum. In all cases, with one exception, the lesions were multiple, ulceration of the tongue, pharynx, or stomach existing simultaneously with ulceration of the intestines. In 12 cases the lesions were confined to the small intestine; in 5 to the large, while in 20 they affected both viscera. The author observes that, in cases where ulceration has been confined to the small intestine, the large has frequently contained solid fecal matter, thereby demonstrating a fact already remarked on by Niemeyer, that ulceration of the small intestines may exist without giving rise to diarrhœa. As a rule, the number and extent of the intestinal ulcerations bore a constant relation to the pulmonary lesions. In the small intestine, the ulcers were generally seated in the lower portion of the ileum, although in some cases they were confined to the ileo-cæcal valve, while in others they extended as high as the jejunum, and even duodenum. These ulcers in the earliest stage appeared as small white spherical bodies of the size of a pin's head springing from the mucous membrane. At a later stage they became larger, and the mucous membrane had shrunk away from their summits, thus leaving punctiform ulcers. In some cases, the ulcers were situated on Peyer's patches, and were multiple. In the large intestine, the lesions were as a rule confined to the ascending colon, though, when numerous, they were also found in the cæcum and around the vermiform appendix. The author remarks on the extreme rarity of tubercular granulations in the large intestine as compared with the small. The article extends to a considerable length, an analysis of each case being given, and ample references made to the literature of the subject. LITTON FORBES.

7. *Ripping on Morbid Changes in the Ependyma of the Cerebral Ventricles.*—The author (*Allgemeine Zeitschrift für Psych.*, Band xxxvi) recognises four distinct forms. 1. *Gelatinous Softening* is the result of an acute inflammation; the ependyma is at first markedly reddened, thickened and swollen; later it becomes more glazed, loosened, and softened. This form is most frequently met with in the third and fourth ventricles; when it occurs in the lateral ventricles, it is usually situated over the corpora striata. It is found in cases of mania of comparatively short duration, in some cases of melancholia with great motor excitement, and in isolated cases of paralysis. Microscopical examination shows the cylindrical epithelium-cells to be devoid of cilia, thickened, shortened, and swollen; the nucleus is often constricted, as if for cleavage. Numerous round or oval, slightly granular cells with bright nuclei, were seen in the small-celled substance between the prolongations of the epithelial cells; they extended also into the network of the Deiter's cells. 2. *Echymosis* has only been seen by the author in the fourth ventricle, most frequently over the locus cœruleus, and once over the lineæ transversæ of the auditory nerve; the echymoses are about the size of a pin's head, and there is general reddening of the ependyma. The effusion of blood is always in the connective tissue layer; it is covered by a thin layer of small-celled substance and the epithelial cells. All the cases in which this form was observed were severe melancholia with numerous hallucinations. 3. *Folded and Striped Shrivelling*

is most often seen in the lateral and fourth ventricles. The surface of the membrane generally appears smooth, but very fine whitish folds may be distinguished in great number. Microscopically, the cylindrical epithelium cells are seen to be diminished in size and shortened, often laterally compressed, and their heads irregularly shaped. Little or nothing remains of the fine cellular substance, but the connective tissue appears gathered together into wavy bundles. There is therefore a hyperplasia of connective tissue, with wasting of the epithelial layer. This form of change was seen in cases of organic psychoses due to tumour or abscess in the brain. 4. *Granulation* occurs in all the ventricles, and is exceedingly common in long-standing paralysis or dementia, especially if the latter have followed upon chronic mania. As a rule, the surface of the membrane is covered by round, white, hard eminences, about the size of grains of sand; in rarer cases the granulations become much larger, attaining the size and shape of a lentil, or even forming large, glittering, mother-of-pearl like, plates. Examined under the microscope, the granulations are seen to consist of concentrically arranged connective tissue-fibres, on the surface of which the small celled substance and epithelial cells are entirely absent. The author regards the first and last described forms as earlier and later stages of the same process; they both usually accompany chronic inflammatory processes in the pia mater and arachnoid; they constitute, in fact, an inflammation of the visceral membranes of the brain. The folded and striped shrivelling appears to develop itself in exactly an inverse order to the above, the connective tissue layer being first affected, and the superficial cellular layers becoming later atrophied and thrown off. The fact that this form occurs usually in the neighbourhood of circumscribed lesions, tumours or abscesses, quite tallies with this view. In conclusion, Dr. Ripping states that the supposition that softening of the ependyma is a result of hydrocephalus internus appears to be quite unfounded. In many of his cases of gelatinous softening, there was no hydrocephalus internus whatever; whereas in very many cases of hydrocephalus internus there was no softening of the ependyma. All the cases of folded shrivelling, however, were accompanied by hydrocephalus internus. C. S. W. COBBOLD, M.D.

SURGERY.

RECENT PAPERS.

1. LAMANA Y ULLATE.—On the Topical Treatment of Carbuncle and Malignant Pustule. (*El Siglo Médico*, No. 1361, Jan. 1880.)
2. CORRADI, GIUSEPPE.—On an Improved Method of applying Antiseptic Vapours. (*Gazzetta Medica Italiana Provincia Veneta*, Jan. 1880.)
3. TAPIA, M.—The Use of the Catgut Ligature in Aneurism. (*El Genio Médico-Quirúrgico*, No. 1275.)
4. CASELLI.—Removal of the Pharynx, Larynx, etc. (*Il Morgagni*, Sept. 1879.)
5. MEDINI.—A Case of Arterio-Venous Aneurism cured by Pressure. (*Bulletino delle Scienze Mediche*, Jan. 1880.)
6. DE AGOSTINO.—On a Case of Poisoning from Carbolic Acid used Surgically. (*Gazzetta degli Ospitali*, Feb. 1880.)
7. PARONA, FRANCESCO.—On a New Method of Obviating Secondary Hæmorrhage. (*Bull. delle Scienze Mediche di Bologna*, Sept. and Oct. 1879.)

8. AMBONI, VINCENZO.—A Successful Case of Nerve-Stretching. (*Annali Univ. di Medicina e Chirurgia*, Jan. 1880.)

9. RUGGI.—The Pathology of Acquired Varus.

10. PICK, T. P.—On a Novel Mode of Reducing Subastragalar Dislocation. (*British Medical Journal*, Feb. 1880, p. 207.)

11. SPENDER, J. K.—The Use of India-Rubber Bandages. (*Ibid.*, March 1880.)

12. BARDELEBEN.—On Antiseptic Surgery. (*Medisch-Chirurgische Rundschau*, Feb. 1880.)

13. VON LANGENBECK, BARON.—On Sutural Junction of Wounded Nerves. (*Berliner Klinische Wochenschrift*, No. 8.)

14. HOLL, M.—On Anomalies of the Twelfth Rib and their bearing on Nephrotomy. (*Archiv für Klinische Chirurgie*, Band xxv, Heft 1.)

15. SZUMAN, L.—On a Case of Resection of the Anterior Wall of the Thorax. (*Deutsche Zeitschrift für Chirurgie*, Band xii, Heft 4, 5.)

1. *Lamana y Ullate on the Topical Treatment of Carbuncle and Malignant Pustule.*—In this paper (*El Siglo Medico*, No. 1361, January 1880) the author lays stress on the advantages of treating the above affections by means of local applications, instead of by the more usual methods of incision, etc. He employs in his own practice a mixture of common salt, yolk of egg, and Armenian bole, as an application. The first of these three ingredients is, however, the only active one, and its good effects are to be attributed to the exsiccation it causes. The author has either treated or witnessed some hundreds of cases treated by this method, with the best results, and he considers it far superior to any other with which he is acquainted.

2. *Corradi on an improved Method of Applying Antiseptic Vapours.*—Professor Giuseppe Corradi (*Gazzetta Medica Italiana, Provincie Venete*, January 1880) commences his article with a review of what he considers the chief disadvantages and inconveniences of the antiseptic method as at present practised. Besides the danger of carbolic acid poisoning, which he believes to be always present when large injections of the acid are used, and the irritation of skin frequently produced by the gauze, there is the extreme discomfort caused to the surgeon, whose eyes and throat are irritated by the spray, and who is precluded from the use of such instruments as the galvano-cautery, or the thermo-cautery of Paquelin. To obviate these inconveniences, the author suggests and has practised a method by which a jet of chemically pure air, impregnated with the fumes of carbolic acid or other volatile disinfectant, can be made to play upon the part to be operated on. This object he accomplishes by means of a fan giving a continuous blast, the air to supply which is made to pass previously through a diaphragm of wadding. By this means it is deprived of all its 'atmospheric dust'. The air as it leaves the fan is next conducted into a Wolfe's bottle, one third filled with pure anhydrous carbolic acid. Here it becomes strongly impregnated with the acid, and thence passes into an India-rubber tube with a rose end, which distributes it in the immediate neighbourhood of the operation, or, if preferred, exactly over the spot. The author has also made trial of sulphuric acid instead of carbolic, but does not recommend it. By fitting a supplementary pipe to the main tube, he has been able to add the vapour obtained by burning various substances, such as charcoal and benzoin, leaves of uva

ursi, tobacco, etc. He has already practised this method successfully in one capital operation, but would be glad to learn the experiences of any who are able to apply it on a large scale.

3. *Tapia on the Use of the Catgut Ligature in Aneurism.*—Dr. M. Tapia gives (*El Genio Medico-Quirurgico*, No. 1275) a series of three cases of aneurism successfully treated by ligature of the arteries involved, the antiseptic method having been employed in all three. The first occurred in a healthy male, aged 31, and involved the axillary artery in its first stage. Pressure, with iodine and digitalis internally, were apparently giving satisfactory results, when unexpectedly the sac of the aneurism burst, and the patient's arm quickly became enormously swollen. In these circumstances it was necessary to at once secure the vessel, which was done under strictly antiseptic precautions with a very satisfactory result. The highest temperature was on the night after the operation, when the centigrade thermometer showed 40 deg. (104 Fahr.) The wound healed without any appreciable suppuration, and the patient was discharged cured within six weeks. In the second case, a large axillary aneurism necessitated ligature of the subclavian. The artery was exposed at a depth of 7 centimètres, and enclosed in a loop of catgut which was left buried in the wound, causing not the slightest symptom of irritation. The treatment, which was antiseptic throughout, was continued for a month, and resulted in complete recovery. The third case was one of popliteal aneurism, in which ligature of the femoral artery was successfully performed, after pressure by means of weights had failed. The author considers these cases as affording strong arguments in favour of the antiseptic ligature, which in his opinion diminishes very considerably the risk of secondary hæmorrhage and other accidents. Most of the substances hitherto used as ligatures act as foreign bodies, and set up irritation and inflammation in the vascular walls, with eventually perforation and hæmorrhage. Against this particular danger, the catgut ligature appears to be a complete safeguard.

4. *Caselli on the Removal of the Pharynx, Larynx, etc.*—This operation has lately been performed successfully by Professor Caselli of Bologna (*Il Morgagni*, September 1879). The case was one of epithelioma with stricture of the glottis. The first step in the operation was to perform tracheotomy, and then insert Trendelenburg's cannula; the next to lay bare the larynx and isolate it. This was then removed by means of the galvano-cautery, as were also the cricoid cartilage, and the pharynx as high up as the tonsils. The hyoid bone was next divided at its middle, and the base of the tongue amputated together with the soft palate, the remaining portion of pharynx up to the level of the posterior nares, and both tonsils. The operation lasted three hours, and but little blood was lost, owing to the constant use of the galvano-cautery. The dressing was antiseptic, and the upper two-thirds only of the wound were brought together. An œsophageal sound and the cannula were both maintained in position. At the time of writing, i.e., fifty-three hours after the operation, the patient had completely recovered from the shock, and promised well. [The operation proved eventually successful, and Professor Caselli has been able to adapt an artificial œsophagus and larynx. —*Rep.*]

5. *Medini on a Case of Arterio-venous Aneurism Cured by Pressure.*—The author relates (*Bullettino delle Scienze Mediche*, January 1880) an interesting

case of traumatic aneurism of the common carotid, involving also the internal jugular vein, in which a complete cure was effected by steady long-continued pressure. The patient had received a stiletto-wound in the left side of the neck; and, when first seen, the tissues around the seat of injury were enormously swollen and infiltrated with blood. The diagnosis admitted of no doubt, as all the signs of arterio-venous aneurism were well marked. Treatment by cold, absolute rest, and digitalis, having failed, and the statistics of the operations hitherto performed for the cure of arterio-venous aneurism in this situation being very unfavourable, the author determined to have recourse to direct pressure. He employed for this purpose Rizzoli's horse-shoe compressor, which he considers to offer certain advantages over Signoroni's, one being that the pads are movable and can be applied in any direction. After a few days of this treatment, the improvement was so marked that the patient anxiously seconded the efforts of the surgeon, and kept up regular pressure by means of the screws attached to the pads, which he manipulated himself. After five weeks he left the hospital much improved, though the aneurism still existed. The author therefore adapted a semicircular pad with two cushions to the part, and directed the patient to wear the instrument continuously. The result was most satisfactory. When next seen, all traces of the tumour had disappeared, save a small hard lump of the size of a hazel-nut, which was probably the obliterated jugular vein. The steps in the process of cure had probably been (1) closure of communication between the vein and artery; (2) obliteration of the vein, by which the aneurism became a simple arterial one, (3) which eventually became consolidated and absorbed.

6. *De Agostini on a Case of Poisoning from Carbolic Acid used Surgically.*—In this paper (*Gazzetta degli Ospitali*, February 1880) the author reviews at length a number of cases collected from various sources, demonstrating the toxic influence which carbolic acid occasionally exercises when applied as a dressing to large open wounds. He records a case which occurred lately in his practice, and which illustrates very clearly the bad effects which may follow the use of this agent. The patient came under the author's care, suffering from perinephritis, for which, the presence of pus having been diagnosed, a large incision exposing the renal tissues was made in the sacro-lumbar region. A drainage-tube was inserted, and through it the wound was washed out very freely with a one per cent. solution of carbolic acid. The incision was further filled with lint steeped in a two per cent. solution of the acid, and the whole covered over with wadding moistened with a similar solution. Owing to the discharge being very copious, the dressings were renewed daily, and the washing out of the parts very thoroughly performed. In spite, however, of the fact that the local appearances were most satisfactory, the patient's general condition did not continue to improve as it had done for the first ten days after the operation. Periodical attacks of fever occurred daily, with a temperature of 39.2 deg. Cent. (102.5 Fahr.), and were followed on one occasion by a violent attack of dyspnoea, with expectoration of a litre of serous fluid, and great prostration. The urine on one occasion was of a dark olive tint. Symptoms of hydrothorax appeared, and a preliminary puncture revealed the existence of fluid, which, however, disappeared within twenty-four hours. Meanwhile, the general condition of the patient becoming

steadily worse, and the temperature being always higher after dressing of the wound, it was determined to substitute salicylic for carbolic acid. The effect of the change was remarkable. Within a few hours the temperature fell to 36.4 deg. (97.5 Fahr.) and continued unchanged till convalescence, which took place rapidly; all symptoms of fever likewise disappearing. The urine showed only in a very slight degree the suspicious dark colour of carbolic urine, but there was a remarkable deficiency of the sulphates. The author believes that carbolic acid intoxication may cause symptoms of collapse, pulmonary oedema, pleurisy, and pneumonia, with a remittent or intermittent type of fever, proving ultimately fatal. The absence or marked diminution of the sulphates in the urine is the most reliable symptom of carbolic acid poisoning, which, as a rule, will be more likely to occur in those exhausted by chronic affections. The chief danger would seem to be in washing out large cavities such as the bladder or pleura, or large superficial wounds. Though such intoxication is rare, its possibility should always be borne in mind, as also the fact that in any given case there may be an idiosyncrasy rendering the patient intolerant of even the smallest quantity of the acid.

7. *Parona on the Obliteration of Secondary Hemorrhage.*—The author commences by an examination of the general principles on which the success either of a ligature or of torsion depends. He considers the essential point in each case to be the formation of a clot, and this he proposes to effect more rapidly and certainly, by the injection of a few drops of hydrate of chloral into the lumen of the artery. The usual ligature may be placed on the vessel, or two ligatures may be used, and the chloral injected into the portion of artery enclosed between them. The author has tried a variety of substances, but finds chloral superior to all others as a coagulating agent, the resulting clot fitting much more closely the calibre of the vessel, and not shrinking as does that yielded by perchloride of iron. The author performed numerous experiments on dogs before venturing to practise his method on the human subject; he has lately, however, tried it in two cases with excellent results. Besides acting as a hæmostatic, the chloral acts also as a sedative, and thereby exerts a favourable influence from the first on the progress of the case.

8. *Amboni on Nerve-Stretching.*—The author records a case of obstinate neuralgia of the upper arm with contraction of the forearm, and pain radiating over the whole upper half of the left side, successfully treated by stretching the nerve-trunks of the brachial plexus. The patient, a female, was 39 years of age, and the affection had lasted over a year, having commenced shortly after an extensive abscess in the axilla had ceased to discharge. Every method of treatment had failed to give relief, and as a last resource the author determined to cut down on the brachial plexus, and expose the nerves forming it. The operation was one of considerable difficulty, and lasted over an hour. Twenty ligatures were applied, four of which were on veins. The connective tissue around the nerves was carefully removed, and their trunks exposed and stretched; a drainage-tube was then inserted, and the wound closed with sutures. The operation was scarcely finished before its good effects became evident. The patient could at once move the fingers and forearm, and was quite free from all pain. The wound healed without any bad symptom; and, up to the time of

writing, seventy-four days after the operation, there has been no return of the neuralgic pains.

9. *Ruggi on the Pathology of Acquired Varus.*—The author reports two cases of this affection, which he discusses from a pathological point of view. He considers that the supination of the foot, which is present either constantly or at intervals in this affection, is its chief pathognomonic sign, and one, moreover, which will serve to distinguish it from a similar affection, having its origin in the astragalo-calcaneoscaphoid joint. The reason of this assumed position is to be looked for in the imperative necessity of finding relief from pain. The cases are reported at considerable length, and illustrated with woodcuts.

LITTON FORBES.

10. *Pick on a Novel Mode of reducing Subastragalar Dislocation.*—In a case that had resisted all ordinary means of reduction, Mr. Pick (*British Medical Journal*, February 1880, p. 207), at Mr. Henry Lee's suggestion, passed the middle of a bandage, twisted into a clove hitch, round the foot, just behind the heads of the tarsal bones. The two ends of the bandage were tied and passed over the operator's shoulders, the knee of the surgeon being, at the same time, placed in front of the lower extremity of the tibia. Considerable extension and counter-extension were thus exerted, and the foot moved from side to side, when, in a quarter of a minute, the bones slipped quietly into their places.

11. *Spender on the Use of India-Rubber Bandages.*—In support of a caution given by Mr. Owen, who had found severe cellulitis follow the use of India-rubber bandages, Dr. J. K. Spender reports (*British Medical Journal*, March 1880, p. 362) a case in which, at the end of three weeks, the use of the bandage was followed by two carbuncular abscesses in the calf of the leg, followed by bronchopneumonia, which quickly carried off the patient, aged 75.

RICHARD NEALE, M.D.

12. *Bardeleben on Antiseptic Dressings.*—The following extract, from Professor Bardeleben's *Text-Book of Surgery*, is published in the February number of the *Medicinisch-Chirurgische Rundschau*. The most convenient and efficacious of antiseptic dressings are those containing carbolic acid. Thymol is a less convenient agent, merely on account of the difficulty in obtaining a sufficiently strong solution. Both agents are very volatile. Dressings, therefore, in which either is mixed with lard or resin, soon become useless. Such dressings should either be used when quite fresh, or be closely packed in some air-tight receptacle. Moist dressings of thymol and carbolic acid have the advantage that they may be readily provided and without technical assistance, but they must be renewed from time to time. If jute be used at the same time, the moistening of the dressings with carbolic acid or thymol need not be repeated more frequently than once in twelve hours. Salicylic acid is less soluble and also less potent as an antiseptic than the above-mentioned agents; but, on the other hand, it is not at all volatile, and dressings impregnated with it preserve their efficacy for a long time. The small crystals, however, may be readily detached from dry dressings, and thus the antiseptic working of the application is impaired and a dust diffused around the patient, which is very irritating to the mucous membrane of the air-passages and provocative of coughing and sneezing. This acid has this important advantage over carbolic acid and thymol, that it is much less irritating in its action on the skin and on open surfaces. Not the hand of the surgeon only, but also the skin of the patient, must

suffer from the local action of carbolic acid. The most irritating of dressings is Lister's gauze, on account not merely of its carbolic acid, but also of the paraffin that it contains in large amount. Not only pain and redness, but also a pustular eruption and superficial gangrene of the skin, may occur during the use of Lister's dressings, especially if the bandaging be too firmly applied. Carbolic acid, as C. Hueter remarks, acts not only as an irritating but also as a paralysing agent, particularly on the small vessels. Hence the active bleeding from all fresh wounds to which a solution of carbolic acid is applied in a stream or spray. In solutions of more than three per cent., carbolic acid acts as a caustic. Whether the burning pains caused by the prolonged application to the skin of carbolic acid, even in weak solutions, be due to the direct action of this agent on the nerves or to dilatation of the small vessels and consequent stasis of blood, cannot be made out. Thymol has no advantage over carbolic acid in this respect, for, even in solutions of one per thousand, it excites severe burning pains when applied to the skin. It does not, however, cause any paralysis of the blood-vessels. With the use of carbolic acid, the burning pains give way to anaesthesia; with the use of thymol, this change does not occur. Boracic acid dressings, which may be used whenever carbolic acid or thymol cannot be conveniently or safely applied, have this advantage, that they may be kept for a long time without being deprived of their efficacy, boracic acid being non-volatile. Chloride of zinc dressings should not be applied directly to a wounded surface, as this salt acts as a caustic. For the same reason, any wound-secretion absorbed by chloride of zinc dressing should not be allowed to come into contact again with the surface of the wound, or to accumulate in its vicinity. If these precautions be taken, chloride of zinc will be found, in combination with jute, a very useful antiseptic dressing. Of much greater importance than the local irritation that may be produced through the application of antiseptic dressings, is the question of the danger that may arise through the absorption of any of such agents. The only agent that need be considered in this respect is carbolic acid, for this alone of the above-mentioned antiseptics can be absorbed by the organism from the dressings in such quantities as to excite serious disturbances. Carbolic acid is decidedly a poison. That it is very frequently absorbed both from moist and from dry dressings, may be proved by the frequent occurrence of a characteristic and easily recognised change in the urine. The colour of this exuded fluid is at first olive-green, subsequently, after some exposure to the air, dark brown, and finally black; the sulphates disappear and are converted into sulpho-carbolates. But notwithstanding this alarming symptom, the general health of the patient, if not otherwise affected, usually remains good. In some instances, however, the appetite fails, the patient feels dull and is apathetic, and there is nausea and occasional vomiting. The intensity of these disturbances stands in no close relation to the intensity of the urinary staining; with the urine very dark in colour, the patient may still feel quite well. It is not imperatively necessary to discontinue the use of carbolic acid dressings when the urine becomes stained; but, so soon as the above-mentioned general symptoms are manifested, some other antiseptic dressing should be substituted. (See page 146.)

W. JOHNSON SMITH.

13. *Von Langenbeck on Sural Function of Wounded Nerves.*—In a paper read before the

Berlin Medical Society on January 14th of the present year, and published in the *Berliner Klinische Wochenschrift*, No. 8, Baron von Langenbeck gives the details of a case, the subject of which, a labourer aged 31, had received severe injuries through the fall of a ceiling. The patient, when first seen, presented a large scalp-wound in the frontal region, and was unable to stand in consequence of an injury, probably fracture, to the lumbar portion of the spine. The integument over the outer surface of the right arm in its lower half was much bruised, and there was complete paralysis of the extensors of the hand and fingers on the same side, with loss of sensation over the back of the hand. The bruised portion of integument above the elbow subsequently sloughed. At the end of the second month the patient had recovered from the more severe injuries, but still remained under treatment in consequence of the following condition of the right upper extremity. The bruised and necrosed portion of integument had been replaced by a tender cicatrix, which was situated over the spot where the median nerve passes between the triceps and brachialis anticus muscles, before taking its course along the forearm. The extensor muscles of the hand and fingers were completely paralysed, and the affected muscles failed to react both to the constant and the induced currents. There was loss of sensibility in the skin over the back of the hand and forearm. This condition was regarded as the result of a solution of continuity in the median nerve, produced at the time of the separation of the sloughing portion of skin from the outer surface of the arm. An incision having been made through the cicatrix, the divided nerve was exposed, and its two extremities, separated from each other by an interval of about two centimètres, were dissected out from the surrounding cicatricial tissue, trimmed with scissors, and then brought together by a catgut-suture. Considerable difficulty was experienced in bringing the free ends of the divided nerve into close contact, and fears were entertained that the suture would speedily tear itself away. On the twentieth day, however, after rapid healing of the wound, which had been dressed antiseptically, there was decided reaction of the extensor muscles to the induced current, and in the course of a few days the patient was able to extend his fingers. The patient, when discharged at the end of the seventh week, could move his fingers very freely, and also extend his hand, though he could not raise it beyond the horizontal position. In his remarks on this case, Dr. von Langenbeck states that the fact of a divided nerve, when joined by suture, healing by primary union and rapidly regaining its functions, has been proved beyond doubt by the recent experiments of Gluck on fowls. According to this observer, the restoration of conduction in a wounded nerve depends on the formation of an intermediate substance consisting of granulation-tissue, which is deposited in small quantity when the perineurium remains intact, and in abundance when a completely divided nerve has been joined by suture. In this intermediate substance Gluck found, on the fourth day after section of a large nerve, large granular spindle-cells, which are arranged in rows and run together at their elongated extremities. These spindle-cells, which Gluck regards as ganglion-cells, as they are darkly stained by osmic acid, are converted into fibres which connect the axis-cylinders at the extremities of the divided nerve, and their protoplasm becomes differentiated into axis-cylinders and medullary substance. Clinical observations on the results

of suture of nerves in man have not hitherto been so conclusive as the experience of trials made on animals. In the former, the suture was almost always applied to a sensory nerve, and the determination of such results as may be thus attained must necessarily be both difficult and doubtful. It is not easy to make out to what extent the sensibility of the region supplied by the wounded and sutured nerve has been restored, and moreover, there is likely to be deception on the part of the patient. The author states that, in most of the cases hitherto recorded of sutural junction of nerves, the required results have been doubtful or altogether wanting. The efficacy of sutural junction should be more satisfactorily determined by dealing with a motor nerve, because in such case the surgeon is able, by the use of the induced current, to make out the extent of the paralysis caused by the injury to the nerve, and also the extent to which the functions of the wounded nerve have been restored after the application of the suture. Von Langenbeck's case is therefore of value as proving that, by bringing together the ends of a divided nerve with a suture, union by primary intention may take place, and the function of the trunk be restored.

This, the author states, is the third reported case of secondary suture of the median nerve. In one case reported by Letiévant, sutural junction of a wounded median nerve was attempted, but without success, two years and a half after the receipt of injury. In the remaining instance, Esmarch applied a suture to the same nerve sixteen months after its division by an extensive wound. In this case the operation was followed by partial success. The best material of the suture for a wounded nerve trunk the author believes to be catgut. This causes less irritation than silk or wire, does not need removal, and does not interfere with the process of primary union. This case differs from other cases of divided nerve-trunk hitherto reported, in the fact that no swelling was observed at either of the separated extremities of the nerve. The author attributes this to the fact that the median nerve had not been divided by sudden and violent injury, but had gradually given way during the separation of a slough. Another point of interest in this case is the fact that regeneration of the nerve-tissue and restoration of the function of the median nerve so speedily followed the operation, although, as was found on microscopical examination, no nerve-elements existed in the small portions removed from the free ends of the nerve by scissors. In all previously recorded cases of suture of nerves, the centripetal propagation of impressions was the first to be renewed. In Dr. von Langenbeck's case the opposite result was observed, the anæsthesia of the integument on the dorsum of the hand having persisted long after the movements of the extensor muscles had been almost completely restored.

14. *Holl on Anomalies of the Twelfth Rib, and their Bearing on Nephrotomy.*—Dr. M. Holl reports in Langenbeck's *Archiv für Chirurgie*, Band xxv, Heft 1, an interesting case in which nephrotomy was attended with disastrous results, in consequence of an abnormal condition of the twelfth rib, which had been overlooked in the early stage of the operation. The patient, who was under the care of Professor von Dumreicher, was a man, aged 33, who had suffered for many years from calculous disease of the left kidney, resulting in pyonephrosis, perinephritic supuration, and, finally, cystic disorganisation of the organ. In consequence of the severity of the sym-

ptoms at the ultimate stage of the disease, and as the right kidney was believed to be healthy, it was decided to have recourse to nephrotomy. The operation was undertaken on August 6th, 1877, and the usual vertical incision made in the left lumbar region, commencing about two inches below what was supposed to be the twelfth rib. The diseased kidney was found to be enclosed in a thick covering of rough cicatricial tissue, and almost the whole of the organ had been converted into a thick-walled sac containing a purulent fluid. In consequence of some difficulty in enucleating the superior portion of the kidney, the incision was extended upwards. Whilst the dense cicatricial tissue was being divided near the lower margin of the rib, a whizzing sound was heard, and the patient immediately became cyanosed. It was evident that the left pleural cavity had been opened, and that pneumothorax had resulted. On examination of the deep portions of the lumbar incision, it was found that the last rib felt before the commencement of the operation, and used as a guide, was the eleventh and not the twelfth, which could now be felt very small and in a rudimentary state. A further attempt was made to remove the kidney, but, in consequence of collapse of the patient through dyspnoea and much hæmorrhage, the operation was not completed. The patient died on the following day. At the necropsy, an opening through which the little finger could be passed was found at the lower part of the pleural cavity. The left lung was collapsed, and surrounded by a considerable quantity of sero-purulent exudation. The twelfth rib was small and short ($3\frac{1}{2}$ centimètres in length), and its outer extremity did not extend to the inner margin of the lumbar incision. The upper end of this incision had exposed the lower margin of the eleventh rib. Professor Simon, the first of modern surgeons to advocate and to perform nephrotomy, pointed out that the twelfth rib was one of the most important guides in this operation, but failed to mention the fact that this bone not unfrequently exists in a rudimentary condition or is altogether absent. As the twelfth rib is intimately connected with the pleura, and is the only safeguard against injury to this membrane in the course of the operation, it is evident that an abnormal condition of this bone may seriously influence nephrotomy, and not only render the operation very difficult, but also cause the death of the patient. Dr. Holl, struck with the importance of the part played by the twelfth rib in the operation of removing the kidney, has made a series of investigations on sixty human skeletons, with the object of determining the frequency and variety of abnormalities of this bone, and also the relations of the diaphragm and pleura in cases where abnormality of the rib exists. The twelfth rib he found almost always shorter than the eleventh, the average lengths being three inches and a quarter and four inches and a third. In forty-four instances, the twelfth had not more than half the length of the eleventh rib. In twenty bodies out of thirty-six the twelfth rib could not be felt on superficial examination and before dissection, the eleventh rib being apparently the last. In the total number of sixty skeletons, the twelfth rib was altogether absent six times. In abnormal conditions of the twelfth rib, the eleventh rib usually remains normal, save that its free extremity is somewhat depressed, so that the space between the tenth and eleventh ribs is widened. Shortening of the twelfth rib may occur on both sides or on one side only; when unilateral, it occurs more frequently on the right side; it occurs

more frequently in males than in females. No constant co-existence was found of any abnormality of the vertebrae, as to arrangement or number, with absence or abnormal size of the twelfth rib. If this rib be wanting, the corresponding vertebra has no costal articular facet, and presents a connecting link between the dorsal and lumbar vertebrae. In cases of abnormality of the last rib, the posterior attachments of the diaphragm usually occupy their normal position. The pleura, therefore, being no longer protected by the twelfth rib, and passing down below the eleventh rib, is very liable to be wounded during nephrotomy, unless the abnormal condition have been previously recognised and care taken to avoid such an accident. The surgeon, before commencing the operation, should count the ribs, and, if he find the twelfth very short or absent, ought not to carry his knife over a line drawn horizontally outwards from the lower margin of the spinous process of the twelfth dorsal vertebra. The twelfth rib, Dr. Holl states, when short, has no value as a guide in nephrotomy, and ought not to be regarded as such, save when its free extremity extends for some distance beyond the outer margin of the sacro-lumbalis muscle. Dr. Holl agrees in the opinion that was held by Professor Simon as to the danger of excising the twelfth rib in nephrotomy, and disapproves of such proceeding, on account of the great risk involved of opening the pleural cavity.

15. *Szuman on a Case of Resection of the Anterior Wall of the Thorax.*—Dr. L. Szuman reports (*Deutsche Zeitschrift für Chirurgie*, Band xii, Heft 4, 5) the following case from the clinique of Prof. Fischer, of Breslau. The patient, a woman, aged 48, had, about four years before her admission, noticed, for the first time, a small fixed tumour over the fourth rib, and in a line with the mamma in the left side. After it had grown slowly during two years and a half, it commenced to increase rapidly in size, and extended into the left arm-pit. The growth of this swelling was attended with but slight and occasional pains. When first seen by Professor Fischer in June 1878, she presented a tumour occupying almost the whole of the anterior wall of the left side of the thorax. Externally the growth extended to the scapular line, and into the left axilla, preventing complete adduction of the arm. Upwards it reached as far as the clavicle, downwards to the seventh rib, and internally to the left margin of the sternum. It was firmly fixed at its base, and projected forwards to a considerable distance in front of the level of the right nipple. Its anterior surface was studded by hard, small, and rounded growths. The integument over the tumour was movable, quite sound, and traversed by numerous enlarged veins of a dark-blue colour. The general health of the patient was good. As the rapidly growing tumour would speedily have compressed the nerves and vessels of the left upper extremity, and as the mass by its weight and enormous size prevented the patient from working for her support, Professor Fischer decided to extirpate the disease. The operation was commenced under the assumption that the costal pleura might have been readily stripped off from the base of the tumour, and from the diseased portions of the ribs. It was found, however, in the course of the operation that the growth extended for some distance into the left cavity of the chest, and that it was in close connection with the costal pleura. A vertical incision having been made in the integument, the superficial portions of the growth were cut away, and portions of the third and next three inferior ribs separated and removed. The

deep and pleural portions of the tumour were then dissected away, and in the course of this stage of the operation the left thoracic cavity was freely laid open, and the left lung and the surface of the pericardium fully exposed. Every bleeding vessel was at once secured, and the patient lost but little blood during the operation. A large drainage-tube having been carried across the thoracic cavity, and another along the more superficial parts of the wound, the edges of the skin were brought together, and fixed by sutures. The surface of the chest had been carefully disinfected before the operation, and the wound was afterwards covered by Lister's dressing. The carbolic acid spray was not used during the operation, nor on subsequent change of dressing. The result of the case proves, Professor Fischer states, that the use of the spray is not an essential adjunct to antiseptic surgery. The patient suffered much at first in consequence of collapse of the left lung, but afterwards progressed favourably. The wound was quite closed on the fortieth day. The extirpated tumour weighed nine pounds and a half. On examination it was found to be an enchondroma that had ossified at its base, and had undergone colloid degeneration at its superficial parts. Portions of the third and three following ribs had been involved in the growth. The portions of the fourth and fifth ribs that were removed measured each about four inches and a quarter in length; those of the third and sixth ribs each about half this length. In a report on the condition of the patient after her recovery, Dr. Szuman states that there was perfect movement of the left arm, and that the pectoralis major, which had been previously attached to the tumour, had now become attached to the remaining portions of the upper ribs, and performed its functions quite well. The portion of integument which had been so much stretched over the surface of the tumour was drawn inwards between the left lung and the wall of the thorax, and was firmly adherent to the pleura pulmonalis. The left lung, though collapsed, was not atelectatic, and, when the patient coughed, it occupied the whole of the left thoracic cavity. The defect in the anterior wall of the thorax corresponded to the size of an infant's head: the heart, covered only by pericardium and a portion of integument adherent to the sac, could be seen pulsating in the middle of the defect, and the contractions of the left auricle and ventricle could be distinctly seen and felt.

W. JOHNSON SMITH.

PHYSIOLOGY.

RECENT PAPERS.

1. MOLESCHOTT, D.—The Growth of the Human Hair (*Untersuchungen zur Naturlehre*, Band xii.)
2. OTT, ISAAC, and FIELD, G. B. W.—The Functions of the Optic Thalami and the Corpora Quadrigemina. (*Journal of Nervous and Mental Diseases*, Oct. 1879.)
3. MITCHELL, WEIR.—The Cremaster Reflex. (*Ibid.*)
4. WIGHT, J. S.—Measurements of Male and Female Heads. (*Archives of Medicine*, Oct. 1879.)
5. PLOTKE.—On the Condition of the Eye during Sleep. (*Archiv für Psychiatric*, Band x, p. 205.)
6. MAYER.—Results of Obstruction of the Blood-supply to the Brain. (*Centralblatt für die Medicin. Wissenschaften*, Feb. 1880.)

1. *Moleschott on Growth of the Human Hair.*—
1. In reference to the amount of hair produced on the head and beard in relation to time, Professor Mole-

schott (*Untersuch. zur Naturlehre*, Band 12, p. 187,) has found by frequent cutting of the hair in an observation extending over a year on eleven persons, a maximum production of 0.28, a minimum of 0.14 grammes; the average being 0.20 gramme daily. The watery contents of the hair amount on an average to 13.14 per cent.; the loss of nitrogen in this way amounts to 0.0287 gramme = 0.0615 gramme of urea. 2. As regards the growth of the hair in relation to age and to the weight of the individual, the daily growth between 18 and 26 years of age is, on the average, 0.20 gramme; between 32 and 45 years of age, on the contrary, only 0.14. The smaller production of hair is associated with the larger body-weight, but the greater body-weight was always found associated with an older age. 3. Concerning the influence of the time of year, it was ascertained that the production of hair is stronger in the summer than in the winter. The hair has, indeed, in summer, a larger amount of water; but this explains the considerable difference only in very small part. 4. Concerning the influence of the frequency of hair-cutting on the growth of the hair, Moleschott ascertained that the ordinary notion that frequent cutting increases the production is correct. 5. Concerning the growth of the nails, in the course of a year the author produced on his hands 1.825 grammes, that is, 0.267 gramme of nitrogen, or 0.572 of urea; in another year, 2.086 grammes of nail-substance, = 0.315 nitrogen. The growth of the nails is more rapid in summer. 6. As regards the reproduction of the skin, after a boil on the volar side of the fingers, Moleschott lost a piece of epidermis which measured 75 square millimètres: it was 0.125 millimètres in thickness, and weighed 0.0227 gramme. The loss was fully recovered in 34 days. The surface of the body measures on an average 1.614 square mètres. If it be assumed that the epidermis of the whole surface of the body is renewed to the thickness of 0.125 millimètre in 34 days, there is a daily loss of 14.35 grammes of epidermic substance through the unobserved desquamation. This quantity corresponds to 2.1 grammes of nitrogen, or 4.5 grammes of urea. Salkowski, who abstracts this communication in the *Berl. Centralblatt für die Medicin. Wissenschaften*, observes that the whole calculation arises out of the renewal observed as a sequel of a pathological process after epidermis had been removed, and gives, doubtless, too high a figure. 7. As regards the influence of disease on the renewal of the epithelial tissues; Moleschott suffered three weeks from catarrh of the bladder; during that time the production of hair and nails was diminished. 8. In his conclusion, Moleschott points out again that, by the elimination of the epidermic tissues, one-seventh of the amount of nitrogen which is found in the urine is daily eliminated.

2. *Ott and Field on the Optic Thalami and Corpora Quadrigemina.*—Dr. Isaac Ott and Mr. G. B. Wood Field (*Journal of Nervous and Mental Diseases*, Chicago, October 1879) give the results of their experimental researches into the physiological actions of these two bodies. 1. *Optic Thalami.* The authors have on a former occasion endeavoured to show that in the optic thalamus are seated centres, the irritation of which inhibit the rhythmical movements of the sphincters of the rectum and vagina. An attempt is now made to show that the same takes place in the movements of the intestines. Cats and rabbits were employed for the experiments, and their skulls were trephined over the seat of the optic thalami. The movements of the intestines having been carefully ascertained, these centres

were irritated by means of insulated needles in connection with an induced current, and rhythmical action was by this means arrested or greatly diminished. It was also ascertained that section of the brain immediately behind the thalami caused greater activity of these movements. 2. *Corpora Quadrigemina*. The authors having previously ascertained that the nerve-fibres, which convey the influences exciting the secretion of sweat, lie in the lateral columns of the spinal cord, their present object has been to ascertain the centres for the inhibition of this function. Young cats were especially selected for these experiments, as in them the sudorific phenomena are well marked and easily observed. Into various parts of their brains a concentrated solution of chromic acid was injected. When, by this means, the corpora quadrigemina were influenced, it is stated that the feet of the animals became very dry, and remained so for several days after the operation. Electric irritation also arrested the secretion of sweat. The treatment of other parts of the brain in a similar manner was not followed by the same phenomena.

3. *Mitchell on the Cremaster Reflex*.—Dr. Weir Mitchell (*Journal of Nervous and Mental Disease*, Chicago, October 1879) points out that the cremaster muscle is a portion of the lower edge of the internal oblique and transversalis muscles, and that it is supplied by the genital branch of the genito-crural nerve. The reflex act is induced by irritation of the skin of the thigh in those parts supplied by the anterior crural, the internal and middle cutaneous, the two saphenous, and the anterior twigs of the obturator nerves. Through the lumbar enlargement of the spinal cord, the nerve supplying the cremaster is brought into action. The reflex is aroused by a touch, pinch, or prick of the skin of the thigh, extending from the groin to the knee, and in all directions except the external postero-lateral third of the limb. The phenomenon is best marked in boys from six to ten years of age. In adults the excitator region is more restricted, occupying a narrower area on the inner aspect of the thigh, and stretching from the perineum to the knee, and the response to irritation is not so vigorous. As a rule, the testicle on the side irritated is raised; sometimes both are brought into action, and in rarer cases the opposite one only is affected. These physiological conditions vary greatly in different persons, and even in the same individual at different times and under change of external circumstances. In disease, the author found in four cases of hemiplegia that the cremaster reflex was lost on the affected side. In ataxia it is not abolished like the patellar reflex, and in spastic paralysis it is increased. Except in extreme cases of infantile paralysis, the cremaster reflex does not appear to be disturbed. The irregularity and uncertainty of the phenomenon of cremaster reflex in health, and the want of anything like uniform disturbance in disease, have led the author to the conclusion that this symptom is of little or no value in the detection or diagnosis of disease. Possibly further researches on the point may elicit a more practical development of the subject.

4. *Wight on Measurements of Male and Female Heads*.—Dr. J. S. Wight (*Archives of Medicine*, New York, October 1879) has undertaken an elaborate and extensive inquiry to show 'that the brain of the male has a comparatively greater volume in the anterior part of the cranial cavity; that the brain of the female has a comparatively greater volume in

the superior part of the cranial cavity, and that education in the male and the female tend to increase the volume of the brain in the anterior part of the cranial cavity'. The same author, from observations on male heads, comparing those of educated and of uneducated persons, had come to the following general conclusions. 1. The anterior parts of the cerebrum increased in size as the entire brain continued its growth. 2. The anterior parts of the cerebrum increased in size as the brain was educated. 3. An important indication of the development of the brain was found in the size of the masto-frontal angle. The present inquiry enters into the measurements of the heads of educated and uneducated females, comparing them with each other and with those of educated and uneducated males. In measuring skulls and heads, the mastoid process is taken as a centre of departure. The entire research is so complicated and extensive, as to preclude even a complete abstract being made of the results arrived at; and those interested in this important question would do well to consult the original article, where most instructive details will be found. Some of the more important general propositions may be thus formulated. 1. The brain of the educated male has a comparatively greater volume in the anterior part of the cranial cavity than the brain of the educated female. 2. The brain of the uneducated male has a comparatively greater volume in the anterior part of the cranial cavity than the brain of the uneducated female. 3. The volume and form of the brain of the uneducated male somewhat nearly resemble the volume and form of the brain of the educated female. 4. While, in regard to the relations of education, there is greater variation in the development of the anterior part of the brain of the female than the male, it may be remarked that the difference between the lower female brain and the higher male brain is very considerable. 5. The brain of the female shows as great a capacity for development by education as the brain of the male. 6. Under similar circumstances of mental work, hereditarily the female brain would fully equal the male brain. 7. There can be no question that females ought to receive a higher education. 8. One cause of the deterioration of race is the lowly condition of the female. 9. One cause of the amelioration of race is found in the better brain-development of the female. 10. The female should have a higher education—in the interest of herself, the male, and the well-being of the race. 11. An abundance of historical evidence can be adduced to show the soundness of these general propositions, that have been drawn from careful comparative measurements and calculations. 12. The above conclusions will be supported by the facts of imperfect development operating as causes of diseased conditions.

A. HUGHES BENNETT, M.D.

5. *Plotke on the Condition of the Eye during Sleep*.—The author says (*Archiv für Psychiatrie*, Band x) that during sleep the pupil is contracted; and the deeper the sleep the greater the contraction. Light causes the pupil to contract the more, the less deep the sleep is; in the profoundest sleep, light has no effect on the pupil. Sensory and auditory stimuli cause dilatation, which is more marked the lighter the sleep. The pupil dilates to its utmost at the moment of waking; the dilatation takes place even though a strong light is shone into the eye. The narrowing of the pupil during sleep is due to the tonic contraction of the sphincter; the dilatation is due, probably, to the inhibition, or cessation of the

action of the sphincter. There are good reasons to doubt the existence of a special dilator of the pupil. The cornea is dim during sleep, very likely owing to the absence of winking movements; and the eyeballs move, frequently independently of one another, thus occasioning a squint. W. J. DODDS, M.D.

6. *Mayer on the Results of Obstruction of the Blood-Supply to the Brain.*—When the four arteries which pass to the brain in rabbits and rats are constricted, changes occur in the respiratory movements, which S. Mayer has studied by the aid of graphic methods (*Centralblatt für die Med. Wissenschaften*, Feb. 1880). These changes he divides into three stages. *a.* In the first stage, of relatively short duration (20 to 30 seconds), the respiratory movements become quicker and deeper, giving place to a very powerful expiratory tetanus, associated with the well-known convulsive contraction of the muscular system generally. *b.* In a second stage, the animal lies helpless with relaxed muscles, the spasms having passed away, and makes no respiratory efforts. After the cessation of respiration has lasted from half a minute to a minute and a half, the animal inspires, and then begins the third stage. *c.* In this stage, the respiratory movements are executed with extraordinary slowness, and are purely inspiratory in character, the expiration being passive. This stage may last for two or three minutes, until the respirations, which have become more and more shallow, at length cease completely. When these results are compared with the phenomena of pure asphyxia, it is seen that as far as quality is concerned there is no difference, and that the difference lies in the length of time of these various stages. In acute suffocation the first stage is of much longer duration, while the second and third occupy a somewhat shorter time. When the cerebral circulation is arrested by ligature of the arteries passing to the brain, it is noticed that at the beginning of the second stage the pupils dilate enormously, the animal loses consciousness and all power of voluntary motion, and continues in this condition during the third stage. When the arteries are compressed, and the animal placed under such conditions as prevent the occurrence of œdema of the lungs (see original), the general circulation continues uninterrupted if artificial respiration be induced. If, now, after 5 to 15 minutes, the compression be removed from the arteries leading to the brain, respiratory efforts are soon made, and in a few minutes it is possible to stop the artificial respiration, and leave the animal to itself. The author does not here enter on a minute discussion of the results he has obtained, further than to point out that the apparatus for the automatic and regulatory activity of the respiratory centres is influenced by the changes brought about by anæmia, and that it is perhaps localised in different parts of the central organs.

J. GRAHAM BROWN.

LARYNGOLOGY.

RECENT PAPERS.

1. REICHERT.—A New Method for raising the Epiglottis in Laryngoscopic Operations. (*Archiv für Klinische Chirurgie*, Band xxiv, 1879.)

2. FRIEDREICH.—On Percussion of the Larynx and Trachea. (*Deutsches Archiv für Klinische Medizin.*, Band xxiv, 1879.)

3. LINCOLN.—Naso-Pharyngeal Polypi, with Demon-

stration of Cases. (*St. Louis Medical and Surgical Jour.*, vol. xxxvii, 1879.)

4. CUTTER.—The Uterus and the Larynx. (*Ibid.*)

5. GAUCHER.—False Membrane in the Form of a Cast of the Trachea, Bronchi, and their smaller Ramifications, removed during Tracheotomy. (*Le Progrès Médical*, No. 34, 1879.)

6. PYE-SMITH.—Membranous Laryngitis in an Adult. (Pathological Society of London; report in *British Medical Journal*, Jan. 31, 1880.)

7. MICHAUX.—œdema of the Arytæno-Epiglottidean Folds in a Case of Laryngeal Diphtheria. (*Le Progrès Médical*, No. 34, 1879.)

8. ALLEN.—A New Method of Treating Chronic Nasal Catarrh. (*American Journal of Medical Sciences*, Jan. 1880.)

9. ROE.—Adenoid Growths in the Vault of the Pharynx; their removal by the Galvano-Cautery. (*New York Medical Record*, No. 462, 1879.)

10. FRENCH.—Hypertrophy of the Larynx. (*Annals of the Anatomical and Surgical Society, Brooklyn, New York*, Feb. 1880.)

11. WAGNER.—Cases of Intralaryngeal Growths: Operations and Results. (*New York Medical Record*, No. 16, 1878.)

12. ALLEN.—Errors of Conformation of the Nasal Chambers studied in relation to the cause of Nasal Disease and Irregularity of the Teeth. (*Philadelphia Medical Times*, vol. x, 1879.)

13. FINLAY.—Wound of the Larynx and Œsophagus. (*Edinburgh Medical Journal*, 1879.)

14. VERNUEIL, DUPLAY, ROCHARD, and AUGER.—On Naso-Pharyngeal Polypi.—*Bulletin Général de Thérapeutique*, Dec. 1879.)

15. STOECK.—On Complete Closure of the Larynx after Diphtheria. (*Wiener Medizinische Wochenschrift*, No. 46, 1879.)

16. SMITH, GILBERT.—Epithelioma of the Pharynx involving the Larynx and Œsophagus. (Pathological Society of London; report in *British Medical Journal*, Feb. 21, 1880.)

17. SEMON.—Two Cases of Congenital Syphilis of the Larynx. (*Ibid.*, Feb. 14, 1880.)

18. BENNETT.—Laryngo-Tracheotomy in Croup. (Pathological Society of Dublin; report in *British Medical Journal*, Feb. 14, 1880.)

19. LOMIKOWSKY.—On Laryngeal Complications in Sclerosis Cerebro-Spinalis Disseminata. (*Berliner Klinische Wochenschrift*, No. 41, 1879.)

20. BILLROTH.—On Extensive Cicatricial Stenosis of the Pharynx following Syphilis. (*Chirurgische Klinik, Berlin*, 1879.)

21. LAMALLERÉE.—Laryngo-Facial Tic. (*Annales des Maladies de l'Oreille, du Larynx, etc.*, Dec. 1879.)

1. *Reichert on a New Method for Raising the Epiglottis.*—In an elaborate and exhaustive paper (*Archiv für Klin. Chir.*, Band xxiv), Dr. Reichert discusses the hindrances which an abnormal retraction of the epiglottis offers to laryngoscopic examination and operation, investigates the causes which combine to produce this retraction, and suggests for overcoming it a remedy which he thinks more effectual than any hitherto tried. Experience has shown that the epiglottis rises best on the emission of a high E sound with protrusion of the tongue. The author discusses at great length the form and arrangement which the different parts of the larynx undergo during these acts, and explains how such a mechanism influences the raising of the epiglottis. The influence he believes to be an indirect one, brought about by the forward motion of the hyoid bone. The higher the tone, the nearer will the hyoid bone approach the chin, at the same time drawing forward, *i.e.*, raising, the epiglottis by means of the hyo-epiglottic ligament. When this move-

ment fails to raise the epiglottis, there must be some abnormal processes at work which tend to hold it back. Dr. Reichert believes such processes to primarily depend upon a weakness of the muscles which ordinarily close the glottis. To neutralise the effects of this weakness other muscles lend their assistance—viz., those which run from the epiglottis to the arytenoid cartilages, and which, when acting, pull down the epiglottis. This theory would account for the difficulty in raising the epiglottis in young children, who are not yet able to move one set of muscles without the other. The author quotes cases in which, after overcoming hysterical paralysis of the adductors of the cords, removing polypi from the vocal cords, etc., the epiglottis has risen in the normal manner. To overcome the obstacle of a backward lying epiglottis, Dr. Reichert has devised a simple instrument. It is about 22 centimetres in length, the stem is rounded, and its end slightly curved and flattened out into the shape of a heart. This he places gently and firmly between the base of the tongue and the epiglottis, catching the glosso-epiglottic ligament in the notch of the heart-shaped plate. By pressing the stem of the instrument against the upper teeth and moving the handle at the same time gently upwards and backwards, the lower end will move forwards and downwards, completely raising the epiglottis. The elevator is then left for the patient or an assistant to hold in this position, and the operation proceeded with. The author has found the greatest success follow the use of this instrument, even in young children. Operations which would have been impossible, and others that could only have been performed after two or three weeks' preliminary practice, have by its aid been made comparatively easy.

2. *Friedreich on Percussion of the Larynx and Trachea.*—Percussion of the larynx, having been superseded as a means of diagnosis by laryngoscopy, is at the present time of very little practical value. Dr. Friedreich's paper (*Deutsches Archiv für Klinische Medicin*, Band xxiv), however, shows it to be still of scientific interest. The larynx can be best percussed if the patient's head be slightly extended and turned to one side; the neck being supported by a pillow. The percussion should be made on the thyroid cartilage. The intensity of the sound is proportionate to the strength of the blow, thickness of the parts percussed, and the resistance that the sound-wave encounters in its passage through the trachea and larynx. It is loudest when the mouth and nostrils are widely open, and the tongue protruded. The pitch of the sound is dependent upon the length and diameter of the trachea; the shorter and narrower the trachea, the higher the sound. No pure tracheal sound can be produced by percussion; it will always be modified by the resulting vibration in more distant parts. For this reason the pitch of the sound is influenced by the diameter of the free openings, being higher when the mouth and nostrils are open than when shut. It is influenced in the same manner by the extent and freedom of the pharynx. The width of the glottis would seem to assist in determining the pitch of the percussion-sound, as the latter is higher during inspiration than during expiration and intonation, the vocal cords being then approximated. Moreover, in cases of paralysis of the laryngeal muscles, when the vocal cords are seen not to act, respiration and efforts at intonation alike fail to change the character of the sound.

3. *Lincoln on Naso-Pharyngeal Polypi.*—The au-

thor relates (*St. Louis Med. and Surg. Jour.*, vol. xxxvii) two cases in which he removed very large naso-pharyngeal polypi with the galvano-cautery. In the first patient, aged 15, the growth could be traced by the finger to the roof of the pharynx, and was found to extend about half an inch below the margin of the soft palate, which was depressed, and its posterior two-thirds deflected to nearly a right angle, and stretched over the tumour. The tumour also occupied the right nostril, reaching to within half-an-inch of the anterior nares. It was elastic to the touch, and of a pale purplish colour. Hæmorrhages were frequent. A looped wire was carried through the nostril into the mouth, and passed round the base of the growth, before etherisation. The two ends of the wire protruding from the nostril were then pushed through the double cannula-like electrode, which was afterwards applied to the cautery handle. The patient was then etherised, and the polypus separated in a few seconds, and removed through the mouth without difficulty. The slight hæmorrhage which followed stopped spontaneously in a few moments. The tumour was, under the microscope, found to be a fibroma undergoing cavernous degeneration. Twelve cauterisations of the remains of the pedicle were made at intervals of from four to seven days, and a fairly smooth cicatricial surface left. Four years afterwards there was no return of the growth. The cauterisations were made by the electrode described in the *New York Medical Record*, Dec. 30, 1876. In the second patient, aged 19, the tumour, which had recurred after removal by the knife, was attached by a broad base to the vault of the pharynx. It protruded from the left nostril, and also filled the upper part of the mouth; the uvula being protruded in front of the line of the incisive teeth. That part of the tumour which protruded from the nostril was of a dull pink colour, that in the mouth of a dark purple. It was nodulated, ulcerated, and covered with pus and mucus. Hæmorrhages were frequent. The patient was too weak to bear a radical operation at the time, and therefore only tentative measures were adopted for controlling the hæmorrhage. This was accomplished by electrolysis. The treatment extended over a year, twenty-two sittings taking place during that period. From four to six needles were introduced into the mass at each sitting to a depth of from one to four inches; and a current from sixteen to thirty cells of a constant current battery allowed to pass from twenty to thirty-five minutes. There was no hæmorrhage except after the first operation. The tumour diminished under the treatment, and was finally removed in mass in the same manner as in the preceding case. Cauterisations of the stump were made seven times. The tumour showed the structure of a cavernous fibroma. There has been no return during the three and a half years which have since elapsed.

4. *Cutter on the Uterus and the Larynx.*—At a meeting at the American Laryngological Association (*St. Louis Med. and Sur. Journal*, vol. xxxvii), Dr. Cutter drew attention to the relation which he thinks to exist between certain functional disturbances of the larynx, and organic or other affections of the uterus. He adduced many arguments to prove this relation, and brought forward cases where laryngeal affections that had resisted treatment were removed by correcting uterine disorders.

5. *Gaucher on False Diphtheritic Membranes.*—Dr. Gaucher relates the following case (*Le Progrès Médical*, No. 34, 1879). The patient, a child, aged 4 years, was apparently moribund. The trachea was

opened and a cannula introduced, but the child did not breathe. The cannula was withdrawn, a tracheal dilator used, and artificial respiration for some time performed, also without success. Dr. Gaucher then introduced the forceps, and drew out a false membrane, forming a complete cast of the trachea and bronchi. The patient immediately began to breathe and ultimately recovered.

6. *Pye-Smith on Membranous Laryngitis in an Adult.*—Dr. Pye-Smith showed, at a meeting of the Pathological Society of London (*Brit. Med. Journal*, Jan. 31, 1880), the respiratory apparatus and an arborescent membranous cast of the trachea and larger bronchi, from a woman, 23 years old. She caught cold, and was taken suddenly ill, with shivering, vomiting, and symptoms of fever. Two days later she coughed up the cast exhibited. There was no false membrane on the fauces; neither were there any of the signs of diphtheria. Death took place from asphyxia. The larynx, trachea, and bronchi were found injected, but they contained scarcely any trace of false membranes. Dr. Pye-Smith considered the case one of simple membranous inflammation of the larynx and trachea, such as had long been searched for, but hitherto without success.

7. *Michaux on (Edema of the Epiglottidean Folds in a case of Diphtheritic Laryngitis.*—The patient (*Progrès Médical*, No. 34, 1879) was an infant sixteen months old. At the *post mortem* examination, the glottis and larynx were found covered with a thick false membrane, which also extended into the trachea and bronchi. But the most interesting lesion, because the rarest, was a distinct œdema of the epiglottidean folds.

8. *Allen on a New Method of Treating Chronic Nasal Catarrh.*—The author (*American Journal of Medical Sciences*) thinks there is a large group of cases of chronic nasal catarrh depending upon the obstruction of the nasal chambers, consequent upon the abnormal contact of the spongy bones with the septum or with each other. This obstruction, from the impediment it offers to the free passage of air and mucus, occasions the congestion of the mucous membrane and the subsequent accumulation and inspissation of the mucus, the natural backward flow of which is interfered with. A slight amount of contact is frequently found, but in the contact which has clinical significance, the scroll and septum are firmly pressed against one another, and pain is likely to follow manipulation. The indication for treatment is to destroy this occlusion by employing local remedies at or about the places of contact, or by removing portions of the septum when this is abnormally deflected. In the former case, the application is effected by an instrument consisting of a single tapering rod of soft iron bent at an angle, and slightly roughened at the smaller end for the convenience of holding a pledget of absorbent cotton. The medicament into which this pledget is steeped with best advantage is a combination of tannic acid with carbolic acid, or iodoform held in suspension in gelatine. R carbolic acid, 5 grains; fluid extract of geranium maculatum, 15 drops; glycerine, 10 drops; powdered iodoform, $\frac{3}{4}$ drachms; French gelatine, 1 drachm; water, a sufficiency. Dissolve the gelatine in a little water, then add the other ingredients, and rub to a smooth paste. The geranium may be omitted. The gelatine enables the application to remain a long time in contact with the affected parts, and in slowly dissolving forms a thick fluid of the consistency of the normal secretion. This method restricts the application to the spot

where it is needed. Gelatine plates medicated with suitable drugs introduced by forceps may be used with benefit. Powerful fluid astringents may be applied, and their action to a small space limited by a glass syringe, made on the plan of the hypodermic syringe, but much smaller. An adjustable nozzle, consisting of a long delicate pipe of gold, or platinum, is attached to the syringe. A pledget of absorbent cotton is wrapped round the free end of this nozzle, and can be saturated by forcing out a few drops of the medicament by pressure on the piston. The instrument is carried to the affected spot, and allowed to remain long enough to insure a thorough application. The cotton is sufficiently protected by the mucus which has collected around it to prevent it from acting upon the general mucous membrane, when being withdrawn. The strongest applications can be employed in this way with perfect safety. Nitrate of silver in saturated solution is often used. The roof and sides of the naso-pharynx may be reached by steadily pushing the instrument through the superior meatus, or the interval between the inferior turbinated bone and the septum, into the centre of the pharyngeal vault. If, then, the instrument be slowly drawn forward, and a slight upward pressure exerted upon it, it will slip into the upper part of the nasal chamber immediately in front of the sphenoidal sinuses. It is sometimes necessary to cut away portions of an abnormally deflected septum. A knife has been devised for this purpose composed of a single piece of metal, bent at a moderate angle, and presenting a double file-cutting edge anteriorly. The same remedies hold good when the occlusion occurs between the inferior turbinated bone and the floor of the nose; but improvement in these cases is more gradual, and recurrence more frequent.

9. *Roe on Adenoid Growths in the Vault of the Pharynx.*—The author discusses at some length (*New York Medical Record*, No. 462, 1879) the pathology and symptoms of this affection. He advises the removal of the growths by means of the galvanic cautery; and relates several cases in which this method of treatment was attended with success.

10. *French on Hypertrophy of the Larynx.*—The author exhibited before the Anatomical and Surgical Society, Brooklyn (*New York Medical Record*, No. 76), a case of strumous hypertrophy of the epiglottis and laryngeal structures, causing stenosis of the larynx. The patient, aged 17, was of marked strumous habit, evidenced by general hypertrophy of one tibia, nasal and pharyngeal catarrh, weak eyes, stunted growth, and impaired nutrition. The laryngeal symptoms were dyspnoea, stridulous breathing, cough, and aphonia. The epiglottis was much enlarged, resembling in shape a horse-shoe. The glottis was reduced to an irregular triangular opening of the size of a goose-quill. The arytenoid cartilages were both enlarged; the mucous membrane was pale, thickened, and firm to the touch. The patient would not have tracheotomy performed, and died a month afterwards. The following account of the *post mortem* examination is added to the report. The epiglottis was much thickened; the surfaces were rough, wrinkled, and very light coloured, the section resembling bacon. The same change had affected the entire mucous membrane. The glottis posteriorly was completely closed, and the vocal cords so nearly approximated that only the flat handle of the scalpel could be introduced between them. The true vocal cords were thickened, and had lost their usual sharp outline. The ventricles were nearly closed. The same thickening extended throughout

the inferior portion of the larynx, and from three to four centimètres down the posterior wall of the trachea. The trachea, however, was not sufficiently obstructed to have interfered with the introduction of a tube. The whitish bacon-like appearance was due to the development of connective tissue, and to the naked eye resembled the tissue of elephantiasis. [No account of any microscopical examination is given.—*Rep.*]

12. *Allen on Errors of Conformation of the Nasal Chambers Studied in Relation to the Cause of Nasal Disease and Irregularity of the Teeth.*—Dr. Allen (*Philadelphia Med. Times*, 1879) has been for the last four years collecting cases of errors in development and growth-force of the face, processes not ending in gross defect, but exerting just sufficient disturbing influence over the bones of the face to prevent perfect success in shaping the nasal and oral cavities. As a tentative hypothesis to aid him in his researches, he presented the following. Inasmuch as the face is a result of the lateral visceral half arches joining the median structures projected from the front of the brain-case, it follows that, if there be want of harmony between the two genetic movements, errors of symmetry may readily occur. Explanation may be thus given of the asymmetry of the nasal chambers, the external nose, the two halves of either of the dental arches entirely apart from the acquired defects in the same localities. Applying this hypothesis to practice, Dr. Allen had recognised a well-defined group of cases in which the nasal chambers remained from birth partially or entirely occluded. He mentioned in detail two cases in which breathing through the mouth was enforced, and the permanent teeth came irregularly. He thought that the permanent teeth always had a tendency to irregularity, when marked obstruction existed in the nasal chambers at the time when the permanent teeth were developing and erupting. This was due to two causes, viz., the absence of the normal occlusion with the teeth of the lower set in mouth-breathers, and the errors of developmental force which operated in preventing the proper formation of the nasal chambers and the superior maxillæ. He thought that, in cases of obstinate nasal catarrh in children from seven to eighteen years of age in whom the permanent incisors were overlapping and convergent, the two halves of the upper dental arch more or less v-shaped, the tonsils tumid, and the roof of the mouth with a high narrow vault, the cause was deep-lying and congenital, and affected all the structures of the face. Those adults who had measurably recovered from the nasal trouble named, owing to the compensatory changes in the bones, might yet have irregular upper teeth, and a high-pitched, hard palate. In addition to these peculiarities, they exhibited a peculiar form of the external nose. The organ was unusually prominent, and possessed a stout septal cartilage. Dr. Allen believed that this peculiar shape of the nose was the result of a persistent narrow, hard palate. Such a palate did not permit the nasal septum to grow downward, and, as it could not extend backward, by reason of the peculiar fixation of the vomer to the sphenoid bone, it was forced to go forward; hence the projecting nose.

13. *Finlay on a Case of Wound of the Larynx and Oesophagus.*—The case (*Edinburgh Medical Journal*, 1879) was one of attempted suicide. The larynx was completely divided, and several pieces of its cartilage were hacked and hanging down. The oesophagus was almost completely divided, a

small portion of its circumference posteriorly being alone uncut. Tracheotomy was performed low down in the neck. The tube of a stomach-pump was introduced by the nostril down the oesophagus into the stomach, and retained in position to prevent unnecessary interference with the wound. After a week it was withdrawn, when some food passed out of the wound. The wounds healed, and the patient was discharged, able to swallow and breathe naturally. Her voice was permanently reduced to a loud whisper.

14. *Verneuil, Duplay, Rochard, and Auger on Treatment of Naso-Pharyngeal Polypi.*—At a meeting of the Société de Chirurgie (*Bulletin Général de Thérapeutique*, Dec. 1879), MM. Verneuil and Duplay exhibited two patients whom they had treated for naso-pharyngeal polypi. M. Verneuil had divided the soft palate, and with an écraseur had cut away a portion of the tumour. He had then applied cauterisations of chromic acid every two or three days. The polypus gradually softened, and atrophied. M. Duplay had treated his patient by injections of chloride of zinc. M. Rochard mentioned a case in which the soft palate had been divided, the projecting portions of the tumour cut away, and the remainder removed by injections of chloride of zinc. M. Auger deprecated the removal of polypi by radical operations. He recommended injections of perchloride of iron.

15. *Stoerk on Complete Closure of the Larynx after Diphtheria.*—Dr. Stoerk relates the following case (*Wiener Medizinische Wochenschrift*, No. 46, 1879). The patient, a boy 7 years old, had had an attack of diphtheria three years previously, for which tracheotomy had been performed. Three weeks after the operation the tracheal cannula (an unfenestrated one) had been removed, but replaced immediately on account of difficulty of breathing. The child had worn it continually until he came under the care of Professor Stoerk. He was not able to speak aloud. A *cul-de-sac* could be seen with the aid of the laryngeal mirror just below the true vocal cords which moved freely, but their movement was not accompanied by phonation. There was no appearance of mucus, which generally makes its way up, even in very high degrees of laryngeal stenosis. A mirror introduced through the tracheal wound demonstrated a complete diaphragm between the larynx and trachea. The mucous surfaces, soon after the local inflammation, would seem to have grown together; the unfenestrated cannula cutting off the passage of air and secretions which might have prevented such a result. The adherent tissues were divided, and the parts dilated. After the closure of the tracheal wound the boy regained his voice.

16. *Smith on Epithelioma of the Pharynx involving the Larynx and Oesophagus.*—Dr. Gilbert Smith showed this specimen at a meeting of the Pathological Society of London (*Brit. Med. Jour.*, Feb. 21, 1880). The growth was situated in the lower part of the pharynx, and had made its way by ulceration into the larynx and oesophagus. The ulcerative aperture leading into the larynx was small. The growth, although it had invaded the pharyngeal, had not involved the laryngeal aspect of the ary-epiglottidean fold.

17. *Semon on Congenital Syphilis of the Larynx.*—The cases are reported in the *British Medical Journal*, Feb. 14, 1880. The patients were brothers, aged $5\frac{1}{2}$ and $3\frac{1}{2}$ years, who had suffered since birth with dyspnoea and hoarseness. There was abundant evidence of congenital syphilis. Both

children died of acute œdema of the glottis; in the elder, the upper aperture of the larynx was found occluded by hyperplastic thickening of the mucous membrane; in the younger, similar changes had produced stenosis of the glottis. The cases are of interest: 1. From the rarity of deeper lesions of the larynx in congenital syphilis; 2. From the fact that two children of the same family died from this rare manifestation of the affection; 3. Because hyperplastic changes in consequence of syphilis, especially in children, are particularly rare.

19. *Lomikowsky on Laryngeal Complications in Sclerosis Cerebro-Spinalis Disseminata.*—Authors, in describing this disease, mention among other symptoms disturbance of speech as constant and characteristic. Up to the present time, however, no one has made an exhaustive analysis of the vocal affection, nor a laryngoscopic examination of those thus diseased. In a well-marked case, which occurred in the medical clinic of Professor Laschkewitsch (*Berliner Klinische Wochenschrift*, No. 41, 1879), the following peculiar symptoms in respect to phonation were observed. Speech was laboured, interrupted, and the intonation very characteristic. The voice was harsh and vibrating (*vox anserina*). During ordinary conversation, a harsh transition from deep to high tones was noticeable; it being difficult for the patient to maintain a uniform tone even for a short time. This undoubtedly arose from the fact that it was impossible to keep the vocal cords at one and the same degree of tension for any length of time. By the laryngoscope, a constant and irregular vibration of the cords could be seen during an attempt at utterance of A and E. This irregular vibration was probably due to disturbance of muscular co-ordination.

20. *Billroth on Extensive Cicatricial Stenosis of the Pharynx after Syphilis.*—The patient (*Chirurgische Klinik*) experienced a considerable difficulty in breathing and swallowing. The mouth was closed at the root of the tongue as if by a smooth wall, in the centre of which was an opening of the size of a quill. Through this opening he breathed, and took his food. This condition was evidently due to cicatrization following ulceration of the soft palate and fauces. The patient would not remain in the hospital, and was lost sight of.

21. *Lamallerée on Tic Laryngo-Facial.*—M. Lamallerée relates (*Annales des Maladies de l'Oreille*, etc., Dec. 1879) a case of a man, aged 48, who, after a severe chill, was attacked by well-marked facial tic, accompanied by spasms of the muscles of the larynx. The attacks were of short duration, and were induced by sudden heat or cold, swallowing solid food, muscular exertion, mental emotion, etc. When the attacks came on respiration suddenly ceased, the glottis closing with a sudden click. The patient's voice would cease in the middle of a sentence or word. The fits were only alleviated by a horizontal position, or by gentle heat. Laryngoscopic examination was very difficult. The larynx appeared healthy. Spasmodic opening and closing of the glottis was observed. The spasms were sometimes exceedingly short, and sometimes they lasted for several seconds. The symptoms were relieved by quinine, bromide of potassium, and sulphurous baths.

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OPHTHALMOLOGY.

RECENT PAPERS.

1. PINTO, GAMA.—On Hemeralopia. (*Correio Medico de Lisboa*, Jan. 1880.)
2. GALEZOWSKI.—Influence of Extreme Cold on Ocular Affections. (*Recueil d'Ophthalmologie*, Feb. 1880.)
3. YVERT, A.—On Transparent Cysts of the Eyelids. (*Ibid.*)
4. PECHDO.—Paralysis of Accommodation following Typhoid Fever. (*Recueil d'Ophthalmologie*, Feb. 1880.)
5. OCANA, LOPEZ.—On Corneal Maculæ. (*El Genio Medico-Quirurgico*, No. 1275.)
6. LANDOLT, E.—On Myopia.
7. LANDOLT, E.—On the Enlargement of Ophthalmoscopic Images.—(*British Medical Journal*, Jan. 3, 1880.)
8. PARENT.—On Keratotomy. (*Ibid.*)
9. LÜTKEMÜLLER.—A Case of Caries of the Sphenoid Bone with Amaurosis. (*Wiener Medizinische Blätter*, Jan. 1, 8, 15, 1880.)
10. MANZ.—A Case of Hysterical Blindness with Spasmodic Squint. (*Berliner Klinische Wochenschrift*, Jan. 12, 19, 1880.)

1. *Pinto on Hemeralopia.*—Dr. Gama Pinto (*Correio Medico de Lisboa*, January 1880) considers that, in the great majority of cases of this affection, the prognosis is very favourable. He excepts only congenital hemeralopia, and an asthenic form which lasts months, or even years. In 'crepuscular amblyopia', depending on prolonged excitation of the retina, the author considers it important to protect the eye from strong light; but this indication can be sufficiently fulfilled by the use of a shade or of smoked glasses. Isolation in a dark room, and other severe methods of treatment, as recommended by Netter, are, to say the least, unnecessary. Cod-liver oil, tonics, a generous diet, and subdued light, have afforded the best results in the author's experience. In obstinate cases, he recommends injections of strychnine, together with the continuous current.

2. *Galezowski on the Influence of Extreme Cold on Ocular Affections.*—The intense cold which prevailed in France during the months of December and January 1879-80, was not, according to Dr. Galezowski (*Recueil d'Ophthalmologie*, Feb. 1880) without its effect on disease of the eye. The cornea has, he remarks, strictly speaking, no circulation of its own, but depends for its heat-supply upon the temperature of the aqueous humour. The nerves are an important element in the nutrition of corneal tissue; and, as they are for the most part situated very superficially, that is, immediately under the epithelium, their vitality may easily be lowered or destroyed by intense cold. The result is opacity more or less extensive, with necrosis, and ulcers or abscesses of a characteristic form. The action of cold may also be shown by morbid changes in certain branches of the fifth pair, or by inflammation of the protective tunics of the eye. The author records four cases of abscess or ulcer of the cornea; one of neuralgia of the supra-orbital branch of the fifth pair; one of orbital periostitis; one of cerebral mischief, with ocular disturbance; and one of traumatic necrosis of the cornea from a fragment of ice, for which he could find no explanation save the extremely low temperature which reigned at Paris at that time.

3. *Yvert on Transparent Cysts of the Eyelids.*—The author sums up his conclusions (*Recueil d'Ophthalmologie*, Feb. 1880) as regards these growths as follows. 1. A peculiar form of cystic tumour occurs

on the eyelids, but it is decidedly rare; it seldom attains the size of a bean, and always contains a perfectly limpid fluid. 2. The most striking and constant symptom in these tumours is their transparency. 3. They have nothing in common with hydatid cysts, and are totally distinct from them. 4. Their point of origin is not, as might be supposed, in the sudoriparous glands, but the sebaceous follicles, the hypertrophied walls of which secrete a serous fluid. 5. The best treatment consists in the excision of a portion of the follicle, and cauterisation of the fundus of the *cul-de-sac* with a crayon of nitrate of silver.

4. *Pechdo on Paralysis of Accommodation following Typhoid Fever.*—In this case (*Recueil d'Ophthalmologie*, Feb. 1880) the patient was a youth 17 years of age who, during the whole period of the attack of typhoid fever, and subsequently, had suffered from violent cephalalgia. When sufficiently recovered to read, he found he could not do so continuously for more than a few minutes without inducing violent supra-orbital pain. Objective examination revealed nothing of importance. Convex glasses of 4.50 D were prescribed, as also electricity, but without much benefit. Subsequently, a defect in the conjugate movements, causing homogeneous diplopia for distant, and crossed for near vision, was noticed. There was, therefore, paresis both of the third and sixth pair of nerves. Treatment was directed towards strengthening the internal recti, and, with this object, prisms, with the base inwards, were prescribed. This treatment proved so far successful that, after two months, the patient could read and write during a period of four hours without inconvenience.

5. *Ocaña on Corneal Macula.*—Dr. Lopez Ocaña, in a paper published in *El Genio Medico-Quirurgico*, No. 1275, excludes all consideration of corneal albugo or leucoma, which he considers hopelessly indelible. A macula, however, which consists in a number of corneal cells in which the normal course of development has been interfered with, is capable of successful treatment. In cases where, together with maculae, there exists also a chronic vascular condition of the palpebral conjunctiva, excellent results will be obtained by the use either of calomel or of red precipitate. In cases of simple maculae, apart from other complications, the author has obtained very satisfactory results from a collyrium composed of tincture of opium and water, of a strength at first of 1 part in 8, gradually increased to 1 in 4. Should the eye become tolerant of the remedy, which will then lose much of its power, the author recommends a pomade composed of chrysophanic acid and vaseline, 1 in 40. This is an active preparation and requires to be used with discretion and in small quantities, once a day or more, according to the degree in which it is tolerated.

6. *Landolt on Myopia.*—There are, according to the author (*Royal London Ophthalmic Hospital Reports*, December 1879) three main types of this affection: 1. The myopia of a perfectly healthy eye, in which there is merely congenital disproportion between the length of the antero-posterior axis and the refractive power of its dioptric system; 2. Functional myopia due to spasm of accommodation; 3. Myopia of a morbid condition, which, in almost every case, will be found to consist in choroiditis. It is this symptomatic latter form which is essentially progressive and malignant. The greater comparative frequency of myopia in some countries may be explained by the fact that such communities, being naturally poor, are

also more or less underfed, and, as a consequence of this, their powers of physiological resistance are diminished. When the work of education in such communities is carried out with zeal, and when all classes are early submitted to its physical influences, the result will be a large amount of myopia, because the eye, like any other organ, shares in constitutional weakness and deficient vitality. The myopic condition once developed will tend to propagate itself by hereditary descent, and hence myopia may come to be, as it actually is, endemic in certain communities. No amount of minute work will alone suffice to induce myopia, unless the vital power of physiological resistance be impaired either by general causes, or by inherited imperfections.

7. *Landolt on the Enlargement of Ophthalmoscopic Images.*—The author commences (*British Medical Journal*, Jan. 3, 1880) by defining the term 'enlargement' in its optical sense, and next describes a mode of determining the magnifying powers of lenses generally, by the *méthode à double vue*, and *à refraction*. In succession he deals with the subject of retinal projection, adopting for this a constant unit of distance, namely, 30 centimètres; because, as he has shown elsewhere, the projected image is at such a distance exactly twenty times greater than the retinal. In order to determine by the *méthode à double vue* the degree of enlargement of any direct ophthalmoscopic image, Dr. Landolt proceeds as follows. He places a plain vertical surface subdivided into squares of a millimètre each, at a distance of 30 centimètres behind the eye under examination, and, whilst observing the fundus oculi with his right eye, simultaneously directs his left to the divided surface. A portion of the fundus—say the papilla—can then be seen projected on the above surface, and, moreover, divided vertically and horizontally into millimètres. In cases where, from some difference of refraction or visual acuity between the two eyes, this method becomes impracticable, the author meets the difficulty by means of a modification which he introduces in his ophthalmoscope. He places behind the sight hole of the instrument a very small piece of mirror or gilded glass, scored in various directions, and attached to a movable brass rod so that this small mirror can be inclined at a greater or less angle to the plane of the ophthalmoscopic mirror. The necessary movements are conveyed by the thumb of the hand which holds the ophthalmoscope. On looking through the instrument, thus modified, the image of the fundus oculi will be seen divided into squares of a millimètre each, the background already described having been previously placed either behind or at the side of the observer's head. A method of the author's is then given for determining graphically the degree of enlargement undergone by the inverted image. A cylinder, such as that of Liebreich's demonstrating ophthalmoscope, is used, and at one end of it is placed a convex lens of about 55 millimètres focal length (D 18), maintained at a constant distance from the observed eye. The other end of the tube, to which the observer applies his eye, has an opening at the side intended to permit of the light falling on an ophthalmoscopic mirror fixed in position. The resulting inverted image is formed between the lens and the mirror. By means of a movable diaphragm divided into squares, its size may be accurately determined, as likewise its distance from the observer; this latter being read off from a scale placed on the side of the cylinder. Some very simple and neat formulæ for calculating the size of the in-

verted image for any degree of refraction are given, as also a table of the enlargements of the ophthalmoscopic image in the direct and indirect methods of examination. The paper as a whole is a valuable and very readable contribution to the literature of its subject. It is accurately and carefully written, and is illustrated by two excellent woodcuts. In many particulars, it is a popular exposition of doctrines already promulgated in the author's work on the 'Grossissement des Images Ophthalmoscopiques', in Wecker and Landolt's *Traité Complet d'Ophthalmologie*.

8. *Parent on Keratascopy*.—The author (*Recueil d'Ophthalmologie*, February 1880), while objecting to the term 'Keratascopy', as employed by MM. Cuignet and Megnin to describe a method of diagnosing anomalies of refraction by means of the ophthalmoscopic mirror, agrees in the main with their conclusions. He shows, however, that as regards the mere phenomena of light and shade, to which these authors attach so much importance—hypermetropia, emmetropia, and weak myopia—all give similar results. The appearances observed become reversed according as a plane or a concave mirror is employed, and, consequently, it is not a matter of indifference which of the two is chosen. 'Retinoscopy', or some such term, would be more correct, seeing that really the cornea plays no part whatever in the appearances described, which are, in fact, identical in principle, and depend on the same laws as does the method of determining the refraction of an eye, by observing whether its vessels become displaced in the same or in the opposite direction to the observer. The author enters, at considerable length, into the optical and purely scientific portion of his subject, and illustrates his views by a well-executed woodcut. He believes the method of keratascopy to be of real value, but considers it must be practised with certain precautions, in order to give fairly accurate results; thus, the observer should place himself at 1 mètre and 20 centimètres, or 1 mètre and 30 centimètres from the patient; then throwing a pencil of light into the eye, he will notice a deep shadow moving, say in the same direction as the mirror; this shows a high degree of myopia. Concave glasses are then to be held before the observed eye until the shadow becomes much less dense, and either describes a very large arc as it moves, or else travels in a direction the reverse of the movements of the mirror. The glass so found will be a measure approximately of the myopia. In the case of hypermetropia, convex must be substituted for concave glasses; in the case of emmetropia, with + 10, the shadow will follow the movements of the mirror, while with + 0.50 D they will move in the opposite direction. The same law applies equally to the determination of astigmatism, but the refraction of each meridian must be separately determined. LITTON FORBES.

9. *Lüttkenmüller on a Case of Caries of the Sphenoid Bone with Amaurosis*.—The case occurred in the clinic of Professor Bamberger (*Wiener Medizinische Blätter*, Jan. 1, 8, 15, 1880). The patient was a man, aged 20. The first symptoms were headache, a purulent discharge from the right ear with impairment of hearing, and a rapidly progressive failure of sight in the left eye. Three months from the onset, when he was first examined, the left eye was totally blind, while the right could count fingers at five mètres. The optic discs were normal. A few weeks later, blindness was complete in both eyes, and the discs were pale. Loss of flesh, fever, and partial

delirium followed, and a painful swelling appeared in the region of the upper two cervical vertebræ. The heart and lungs were not affected. Right sided facial paralysis appeared shortly before death. There was no paralysis of the extremities. *Post mortem* examination revealed tubercular caries of the base of the skull, and of the first two cervical vertebræ, with tubercular meningitis. The optic commissure, the olfactory nerves, and the tuber cinereum, were embedded in a conglomerated mass of cheesy-looking tubercles. This mass extended outwards into each Sylvian fissure, and filled the sella turcica. The bone forming the roof of the sphenoidal cells was softened, so as to be cut easily with the knife. The right tympanum was filled with pus, but the petrous bone was healthy. Dr. Lüttkenmüller gives a full analysis of the symptoms in their relation to diagnosis. The following point is specially noteworthy. Failure of vision set in early in the disease, and both eyes became totally blind before any other pronounced cerebral symptoms appeared, the optic discs up to this point remaining normal in appearance. Such a condition points strongly to a direct lesion of the visual apparatus, and probably of the optic commissure, rather than to a general rise of intracranial pressure, as being the cause of the amaurosis. Such a direct lesion existed in this case.

10. *Manz on a Case of Hysterical Blindness with Spasmodic Squint*.—This case, which is recorded at considerable length (*Berliner Klinische Wochenschrift*, Jan. 12, 19, 1880), presents a group of symptoms differing in some respects from any of the recently described hysterical affections of the visual function. The patient was a delicate girl, by occupation a governess. The following symptoms were developed whilst she was under observation; pain in the head, inward deviation of the right eye, followed next day by inward deviation of the left, each cornea being turned so much inwards that its inner margin was hidden by the caruncle; contraction of the pupils; extreme amblyopia, fingers being counted with difficulty at one foot; and concentric contraction of the visual fields. The refraction determined by the ophthalmoscope was slightly myopic; the optic discs were normal; perception of colour, when it could be tested, was intact. The girl stated that two years previously she had suffered a similar attack, lasting nine months, and associated with convulsions. While under treatment, and without known exciting cause, she was seized several times with convulsions in the form of a marked opisthotonos, with almost complete loss of consciousness. The symptoms above described underwent remarkable variations as regards their intensity within very short periods of time; sleeplessness intensified them, while sleep, procured if necessary by morphia, relieved them. The acuity of vision especially varied greatly even during examination, being rapidly lessened by the effort to use the eyes. Recovery, more or less complete, occurred several times, only to be soon followed by a recurrence of all the symptoms. With regard to the strabismus, it is noteworthy that when the condition was at its worst, both eyes were turned strongly downwards and inwards, and had lost all power of movement upwards and outwards. Reference is made to other cases of a somewhat similar character. [A case closely resembling this one in certain points is recorded by the reporter in the *Royal London Ophthalmic Hospital Reports*, vol. ix, page 27.—*Rep.*]

PRIESTLEY SMITH.

SYPHILOGRAPHY.

RECENT PAPERS.

1. FOURNIER.—On Syphilitic Alopecia. (*Gazette des Hôpitaux*, Nov. 25, 1879.)
 2. VINAY.—Secondary Syphilitic Synovitis. (*Annales de Dermatologie et de Syphiligraphie*, 1879, Nos. 5 and 6, p. 435.)
 3. SOLARI.—An Unusual Form of Hard Chancre. (*Ibid.*, p. 438.)
 4. ROBERT.—The Accidental Inoculation of Syphilis by Tattooing. (*Recueil de Méd., de Chir., et de Pharm. Militaires*, Nov., Dec., 1879.)
 5. RIZET, FELIX.—Two Cases of Syphilitic Reinfection. (*Ibid.*, p. 602.)
 6. CHARLOUIS.—Two Cases of Serpiginous Syphilitic Ulcer. (*Vierteljahrsschrift für Dermatologie und Syphilis*, 1879, Heft 4, S. 537.)
 7. CHARLOUIS.—A Case of Syphilitic Epilepsy. (*Ibid.*, s. 541.)
 8. GAY, ALEXANDER.—On Irritation and Syphilis. (*Ibid.*, s. 543.)
 9. PROKSCH, J. K.—The History and Pathology of Syphilitic Ulceration of the Bladder. (*Ibid.*, s. 555.)
 10. MONTAZ.—Researches on the Indelible Trace of the Syphilitic Chancre. (*Lyon Medical*, Nov. 30, Dec. 7 and 14, 1879.)
 11. COUTAGNE.—On the Traces left by Syphilitic Chancre, considered from a Medico-Legal point of view. (*Lyon Medical*, Jan. 4, 1880.)
 12. LEDOUBLE.—On Gonorrhœal Orchitis in Cases of Inguinal Hernia, Varicocele, and Abnormalities of the Testis. (*Revue Médicale Française et Étrangère*, Jan. 3, 1880.)
 13. PARROT.—Changes in the Liver and Bones of Hereditarily Syphilitic Children. (*Ibid.*, Jan. 31, 1880.)
 14. CHEADLE.—Three Cases of Late or Tertiary Syphilis in Children. (*British Medical Journal*, Feb. 7, 1880.)
 15. SEMON.—Congenital Syphilis of the Larynx. (*Ibid.*, Feb. 14, 1880.)
 16. MAURIAC.—Urethro-Perineal Inflammation and Abscess due to Gonorrhœa. (*Gazette des Hôpitaux*, Feb. 17, 1880.)
 17. DIDAY.—Syphilis during the Autumn of 1879. (*Annales de Dermatologie et de Syphiligraphie*, Jan. 25, 1880, p. 44.)
 18. SIGMUND.—Lectures on the more recent Methods of Treating Syphilis. (*Vorlesungen über Neuere Behandlungsweisen der Syphilis*, Wien, 1880.)
1. Fournier on Syphilitic Alopecia.—M. Fournier (*Gazette des Hôpitaux*, Nov. 25, 1879) remarks that syphilis often causes fall of the hair, which takes place usually from three to six months after infection, but sometimes one or two years later, if treatment have been delayed. Secondary alopecia rarely occurs in connection with lesions of the scalp, except the acneiform crusts. It may happen in all forms of syphilis, whether benign or severe, but especially in the latter. This alopecia has only one symptom—the fall of the hair. There is no inflammation, pain, or itching. Sometimes the hair is generally thinned all over the head, sometimes it falls in patches. Both forms may be present at the same time. The degree to which the hair may come off varies much; sometimes the fall is scarcely perceptible; sometimes one part of the scalp becomes perfectly bald. In very exceptional instances, every hair of the head falls, and occasionally the whole body is affected. Fall of the eyebrows, partial or complete, is not uncommon, especially in women; when part of the eyebrow falls, causing a break in the arch, the appearance is very characteristic of syphilis. Fall

of the eyelashes is less frequent. Genital alopecia is not very rare, especially in women; it may be partial or complete. In secondary syphilis, the hair is altered in appearance; it loses its lustre, and looks dry, dull, and withered, as though the patient were wearing a wig instead of his own hair. The duration of syphilitic alopecia is from one or two, to six months. The baldness is never permanent. The treatment consists in the administration of mercury internally. Local applications, frequent cutting, and shaving, have not been shown to have any real good effect.

4. Robert on the Accidental Inoculation of Syphilis by Tattooing.—M. Robert, a French army surgeon, gives (*Recueil de Méd., etc., Militaires*, Nov., Dec., 1879) an account of eight soldiers who were tattooed by a man suffering at the time from syphilis, and who had mucous patches about the mouth. The operator used his saliva to dilute the ink employed, and also moistened the needles in his mouth. Three of the eight soldiers developed syphilis, while five escaped, though only one of them had previously suffered from that disease. Some of the men, however, washed their wounds directly after the operation, which, together with the fact that the tattooer did not use his saliva so freely in some cases as in others, accounts, in M. Robert's opinion, for the escape of some of the men. In the three instances where syphilis followed, the initial lesions appeared in due course at the site of inoculation, which was, in each case, the right fore-arm, and were followed by enlarged glands and general syphilitic eruption.

5. Rizet on Syphilitic Reinfection.—M. Felix Rizet reports (*Recueil de Méd., etc., Militaires*, Nov., Dec., 1879) two cases where the patients seem to have had two separate attacks of syphilis. In neither case did the author see the man during the first attack. CASE 1.—A soldier, an intelligent man, contracted a sore in 1871. The sore appeared five or six weeks after the last exposure to contagion. He was admitted into the Hôpital du Midi, under M. Simmonet, who diagnosed an indurated chancre. Syphilitic roseola on the trunk and thighs followed. Van Swieten's solution was prescribed, and soon caused salivation. The patient said that about the same time he had some greyish spots on the palate, and that he lost nearly all his hair. Treatment was discontinued in 1872, and he remained quite well until August 1877, when an indurated sore appeared five weeks after coitus. In December, he was sent to the Military Hospital at Versailles, having already suffered a second time from syphilitic roseola, and had then two enlarged glands in the right groin, and one in the left groin. He had also syphilitic papules about the body, and numerous patches of the lips and velum, and, subsequently, condylomata at the anus, with total loss of hair. The patient went out well in May 1878. CASE 2.—L., in July 1871, had two sores near the frænum. The surgeon who attended him at that time said that both became indurated, and were followed by suppurative adenitis in both groins. The deep swelling of the glands, and the induration of the sores lasted for several months. At the end of August, the surgeon in attendance diagnosed roseola of the chest and limbs, soon followed by mucous patches of the lower lip and left tonsil. Towards the end of September nearly all the hair came off. In September 1878, L. entered the hospital at Versailles with an indurated sore at the base of the glans penis, and multiple enlargement of the inguinal glands. Roseola appeared in October, followed by numerous patches on the left tonsil, and

loss of hair. The patient was discharged at the end of December 1878.

7. *Charlouis on a Case of Syphilitic Epilepsy.*—Dr. Charlouis (Sumatra) relates (*Vierteljahresschrift für Dermat. und Syphilis*, 1879, Heft 4) the following case. An European soldier, aged 24, was admitted into the Military Hospital of Pantei Perak (Atschin), on account of repeated attacks of epilepsy. Three years previously the man had had a hard sore, followed in about a year by pains in the bones, ulcers on the skin, and sore throat. On examination, old scars and other evidences of syphilis were found. The epileptic attacks first came on about the same time as the ulcers, and had been becoming gradually more frequent and more severe, until they occurred as often as six times in a week. Bromide of potassium in large doses had had no effect. Iodide of potassium in increasing doses was then given, and the pain in the head and the epileptiform attacks gradually ceased. The patient was discharged after four weeks' treatment in hospital.

9. *Proksch on Syphilitic Ulceration of the Bladder.*—In this paper (*Vierteljahresschrift für Dermatol. und Syphilis*, 1879, Heft 4) the author does not bring forward any example of his own, but gives an account of six cases, which comprise all the satisfactory instances he has been able to find recorded during the last four hundred years. The six cases include one by Morgagni, two by Ricord, one by Virchow, one by Vidal (de Cassis), and one by Tarnowsky. Proksch sums up the information afforded by a study of these cases as follows. Ulceration of the bladder, sometimes, though rarely, happens in syphilis. The age of the patient has no influence on the occurrence of the ulcers, which have been found in patients from four to eighty-four years of age. There were four men, one woman, and one child. Vidal's patient was of vigorous constitution; Tarnowsky's patient was, on the contrary, weakly. The ulcers of the bladder occurred in four cases with, and in two without, ulcers of the urethra. The affection came on in Ricord's and Vidal's cases about the beginning of constitutional manifestations; in Virchow's and Tarnowsky's cases, other syphilitic lesions had gone before. In Ricord's cases, the ulcers of the bladder and urethra were the only secondary signs present. The number of ulcers varied between one and eleven; but in two cases, the ulceration was diffused. The size of the ulcers varied in size from a lentil to a kreuzer. The ulcers were either superficial (Tarnowsky), or penetrated the mucous tissue (Ricord). In Vidal's case, the wall of the bladder was perforated. The termination of the cases was either healing of the ulcers (as in Virchow's case, and to some extent in one of Ricord's cases), or death from perforation of the bladder. What share the non-perforating ulcers had in the fatal result, cannot be proved. The symptoms of ulceration during life would vary according to the seat, number, size, and depth of the ulcers; but cystitis and catarrh of the bladder, varying in degree in different cases, would probably be present.

10. *Montaz on the Indelible Trace of Syphilitic Chancre.*—This article (*Lyon Médical*, Nov. and Dec. 1879) is written with the object of supporting Horand's dictum that the syphilitic chancre always leaves behind some indication which persists indefinitely, and presents a characteristic appearance. It is the opinion of many eminent syphilographers that the initial lesion may not leave any trace unless the true skin is destroyed. According to M. Montaz, however, the simple chancre, except when artificially

inoculated or phagedænic, does not leave any cicatrix. The syphilitic chancre, on the other hand, always leaves a scar, or at least some characteristic indelible traces by which its former seat can be identified. The author then gives brief notes of 100 cases of chancre or syphilis which came under observation at the Antiquaille Hospital in Lyons during six months. In all the syphilitic cases, the author affirms that he found some trace of the primary sore on careful examination. The conclusion arrived at is, that the syphilitic chancre leaves always an indelible trace, which is usually a cicatrix. Chancres situated at the point where the prepuce joins the glans, although not always leaving a cicatrix, form no exception to the rule.

11. *Coutagne on the Trace of the Syphilitic Chancre, considered from a Medico-Legal Point of View.*—This paper (*Lyon Médical*, Jan. 4, 1880) is a criticism on that of M. Montaz, which has just been referred to. M. Coutagne is inclined to agree with Montaz that the syphilitic chancre leaves some trace behind; but in the presence of a directly opposite opinion of several distinguished authors (Cornil among them) he asks whether the number of cases of old date observed by Montaz is sufficient to decide the point of the persistent nature of the trace. He also thinks the Antiquaille (a hospital for venereal diseases) is not the best field for gaining information to decide this part of the question. Has the indication left by a syphilitic chancre a characteristic appearance? This, says M. Coutagne, is the most important point medico-legally. In the diagnosis of the trace left by a hard from that left by a soft sore, the fact that a phagedænic soft sore leaves a scar takes away all its value from a medico-legal point of view. Besides, herpes, if irritated by caustics, or if it become gangrenous, leaves a scar; and the furuncular affections of the penis, described by Mauriac, would also have to be excluded. M. Coutagne then relates a case where it became important to decide in a court of law respecting the nature of a cicatrix on the penis, and concludes that there is at present no proof that a syphilitic chancre leaves a mark peculiar to itself.

12. *Ledouble on Gonorrhœal Orchitis in Cases of Inguinal Hernia, Varicocele, and Abnormalities of the Testicle.*—The following are the conclusions at which Dr. Ledouble, of Tours, has arrived on this subject (*Revue Médicale Française et Étrangère*, January 3, 1880). In cases of inguinal hernia or varicocele, an epididymitis occurring during gonorrhœa is almost invariably on the same side as the hernia or varicocele. In a patient with congenital inguinal hernia, the globus minor of an inflamed epididymis may become adherent to the bowel, and thus render the hernia irreducible; therefore, the rupture should always be kept within the abdomen during an attack of epididymitis. Varicocele predisposes to repeated attacks of orchitis. Gonorrhœal epididymitis aggravates varicocele, and atrophy of the testis is then more likely to occur. The connection of the epididymis with the intestine in hernia, and with the veins in varicocele, suggests caution in the treatment of orchitis by puncture. In cases of undescended or misplaced testis, gonorrhœal epididymitis almost always attacks that side. The nature, gravity, and suddenness of the symptoms of inflammation occurring when the testis is within the abdomen, have caused the affection to be mistaken for peritonitis, strangulated hernia, etc., and, when in the perinæum, the epididymitis has simulated perineal hernia, peri-

urethral abscess, and inflammation of Cowper's glands. Gonorrhœal epididymitis appears more frequently in cases of irregularity in the position of the testis; the inflammation ends in resolution.

16. *Mauriac on Urethro-perineal Inflammation and Abscess due to Gonorrhœa.*—M. Mauriac (*Gazette des Hôpitaux*, Feb. 17, 1880) remarks that periurethral abscesses, when situated in the penile portion, appear as hard red painful lumps, and may be met with anywhere between the fossa navicularis and the bulb. They sometimes cause considerable peripheral œdema, are readily diagnosed, and run a rapid course. To avoid fistule, an early opening should be made. Abscesses around the deeper urethra are much more serious than those just mentioned. They generally begin in Cowper's glands or the prostate, and, if care be not taken, may be mistaken for abscesses connected with stricture, or for superficial abscesses unconnected with the urethra at all. The inflammation of the urethra may extend to all the glands in connection with it, from the simple acini to the conglomerate glands of Cowper and the prostate. Acute inflammation of Cowper's glands nearly always ends in suppuration. The most frequent cause is gonorrhœa, when it has lasted from twenty to twenty-five days. Balsamic remedies and injections do not appear to have any influence in causing inflammation of these glands; but it sometimes follows immoderate sexual indulgence, or a blow on the perinæum, and may also arise from the introduction of too large an instrument into the urethra, or from the retention of a bougie. One gland only is usually affected, and the left more often than the right. It is rare for both glands to be attacked at the same time. The abscess may point externally or internally; sometimes it opens both through the perinæum and into the urethra. Suppuration occurs from the fifth to the tenth day, and in eight or ten days afterwards cicatrization is usually complete. As a general rule, if the urethra be free from stricture, any inflammatory swelling deep in the perinæum at its anterior portion is connected with Cowper's glands; while abscesses in the posterior part of the perinæum are connected either with a lesion of the anus or of the prostate. Simple perineal abscesses may, however, occur, and when not seen early, there may be some difficulty in the diagnosis; such abscesses, however, quickly close after incision, and urinary infiltration never takes place. The treatment of inflammation of Cowper's glands, before suppuration has taken place, consists in the application of leeches, blue ointment, and extract of belladonna, poultices, prolonged baths, and rest. Saline purgatives should also be given. As soon as fluctuation can be made out, or even before it is well marked, the swelling should be incised. Inflammation and abscess of the prostate are also described by the author.

17. *Diday on Syphilis during the Autumn of 1879.*—Patients who contract syphilis in a cold or temperate climate derive benefit from a removal to a warmer region. Algeria is an excellent place for those who are severely affected. M. Diday (*Annales de Dermatologie et de Syphiligraphie*, Jan. 25, 1880) has noticed an intensity and a tenacity of syphilis in patients subjected by their occupation to cold and damp. From the end of August, and especially during the months of September and October 1879, the author noticed a special intensity in the character of the disease among his patients. The symptoms were frequently more severe; the various manifestations succeeded each other at shorter intervals than usual;

relapse occurred after a period which is generally the guarantee of a definite cure; and specifics did not act with their accustomed curative effect. Twelve cases are given in illustration of these various points. M. Diday is inclined to attribute the above-mentioned peculiarities to the prolonged low temperature of the spring and part of the summer months during 1879.

18. *Sigmund on the Treatment of Syphilis.*—Prof. Sigmund, in the second and enlarged edition of his lectures, says, that gonorrhœa and soft chancre are quite distinct from true syphilis; they show signs of their presence in two or three days after contagion, while the incubation of syphilis lasts from eight to fourteen days, and sometimes longer. In their course, too, gonorrhœa and chancre differ from syphilis, for while the two former run their course in four to six weeks in ordinary cases, syphilis always lasts for several months, and often for years. With regard to syphilitic reinfection, Sigmund remarks that he has himself seen extremely few cases where second infection appeared probable, and that a more careful investigation has led him to doubt the reality of its occurrence. For the correct and complete diagnosis of syphilis, an exact knowledge of the whole organism of the patient is necessary; his previous history must also be taken into account. Only objective symptoms are reliable, or at least only such subjective symptoms should be accepted as agree with the objective. Syphilis is curable in most cases, but not in all. The poison is not exhausted on an average in less than two years. The period between contagion and the appearance of local signs is about eight to fourteen days, and about the same time painless enlargement of the nearest lymphatic gland occurs. Within the next fourteen to twenty-eight days, the remaining glands of the group enlarge. During the next six or eight weeks, most of the more distant glands become affected. About this time, also, red lenticular spots appear on the skin, and erythema about the fauces, accompanied by lassitude, neuralgic pains, and slight fever, and exceptionally there is disturbance of the circulatory and nervous systems, with general malnutrition. Sigmund recommends extirpation of the initial lesion by the knife or cautery, except during pregnancy. The wounds thus left heal as quickly as in healthy people. Whenever there exists the slightest breach of surface after suspicious intercourse, some caustic or other application such as carbolic acid, salicylic acid, thymol, or iodoform should be used at once. Sigmund considers it has been shown by cases already published that, by the early application of such disinfectants, the syphilitic poison may be weakened, or even altogether destroyed. When a sore is indurated, it should be cut out, and the actual cautery applied to the wound. Before general treatment is begun, it is of great importance to get the secretions into good order, to prepare for mercury or iodine, as the case may be. It is generally agreed that treatment should be prolonged for two years, or even longer. Cleanliness and attention to hygiene are of the utmost importance in all stages of syphilis. There is no known means of preventing general constitutional symptoms, except the early extirpation of the initial lesion. The length of time which elapses between contagion and the first appearance of the rash on the skin, and perhaps in the throat, varies from six to eight weeks. According to Sigmund's experience, the early forms of syphilis (of the first six or eight weeks) do best under a purely local treatment, General specific treatment at this time does no good,

and sometimes does harm. Of cases thus locally treated, forty per cent. show only slight secondary symptoms, often so slight that they escape the patient's notice altogether; ten per cent. show insignificant and quickly disappearing signs on the skin and mucous membrane, which are soon got rid of under local applications alone. By such expectant treatment, the number of grave cases of secondary syphilis is not increased; experience, indeed, shows the contrary to be the case. By delaying general specific treatment until a later period, better and more certain indications are afforded the physician, both as to the most suitable remedy, and also as to the best method of employing it. Even in the secondary stage general antisyphilitic treatment should only be resorted to when several systems and organs of the body appear affected; or when one particular part or organ is severely attacked; or, lastly, when the general health and nutrition are clearly suffering from the influence of syphilis alone. The choice of the particular drug to be selected for general treatment depends on the form of manifestation present, and on the constitution of the patient. For the milder symptoms, such as erythema and papules, with general glandular enlargement, the preparations of iodine, combined with small doses of green iodide of mercury, are sufficient; or inunction of one to two grammes (15 to 30 grains) of grey ointment may be used daily. When mercury is contra-indicated, the iodides alone should be given. More severe forms, such as a high degree of glandular swelling, extensive papular, pustular, or scaly eruptions, should always be treated by mercury. Clinical experience does not support the teaching of those who only recommend mercury for the secondary, and iodine for the so-called tertiary stage. In the gravest forms of tertiary syphilis, *e.g.*, gummata of the skin, bones, and nervous system, mercury, especially by inunction, but also subcutaneously injected or administered internally, gives excellent results, while the iodides often fail when given without mercury. In the present state of our knowledge, the clinical rule should be to treat every *severe* case of syphilis with mercury at first; during the course of the disease, some preparation of iodine may be added to, or given alternately with, mercury; or sometimes the treatment may conclude with a course of iodides. The details of general and local treatment of the various manifestations of syphilis are fully entered into in these lectures, to which the author has added an appendix, containing a large number of formulæ.

ARTHUR COOPER.

DERMATOLOGY.

RECENT PAPERS.

1. MANSON, PATRICK.—Notes on *Tinea Imbricata*, an undescribed species of Body-Ringworm. (*Medical Reports of the Chinese Imperial Maritime Customs*, II special series, No. 2.)
2. RAVOGLI, A.—Investigations into the Structure, Development, and Suppurative Inflammation of the Cutis. (*Wiener Med. Jahrb.*, 1879)
3. POSPELOW, A.—A Case of Lymphangioma Tuberosum Cutis Multiplex. (*Vierteiljahres. für Dermat. und Syphilis*, 1879, Heft 4.)
4. CHARLOUIS, M.—Cases of Erythema Exudativum sen Multiforme. (*Ibid.*, Heft 4)
5. LANGER.—On the Textural Changes which produce

the Striæ Atrophicæ of Pregnancy. (*Anzeiger der k. k. Gesellschaft der Aerzte in Wien*, No. 28, 1879.)

6. JARISCH.—Chemical Studies on Pemphigus. (*Sitzungsberichte der Akademie der Wissenschaften in Wien*, Band lxxx, 1879.)

7. BESNIER, ERNEST.—Cutaneous Myomatous Tumours (Dermato-myomes). (*Annales de Dermatologie et Syphilographie*, vol. i, No. 1.)

8. CARRY.—Contribution to the Study of Xanthoma. (*Ibid.*, vol. i, No. 1.)

9. MÉGNIN.—Vegetable Parasites of the Skin in the Domestic Animals, and their Identity or Analogy with those of Man. (*Ibid.*, vol. i, No. 1.)

10. VIDAL, E.—Treatment of Lupus by Linear Scarification. (Note read at the Academy of Medicine; extracted in the *Annales de Dermatologie et Syphilographie*, vol. i, No. 1.)

11. Reports on Leprosy to the Government of India.

12. POLLOCK.—Case of *Tinea Favosa* Epidermidis, communicated from Mice. (Report of Glasgow Dispensary for Skin-Diseases. *Glasgow Medical Journal*, p. 244.)

13. UNNA.—Fibrokeratoma, with Remarks on the Classification and Nomenclature of Homœoplastic Tumours of the Skin. (*Deutsche Zeitschrift für Chirurgie*, vol. xii, 1879.)

14. ROLLET.—The Eruptions and Lesions produced on the Skin, Conjunctiva, and Nasal Mucous Membrane of Workers in Arsenical Preparations. (*Annales de Dermatologie et de Syphilographie*, deuxième série, vol. i, No. 1.)

15. MUNRO, W.—Leprosy. (Reprinted from the *Edinburgh Medical Journal*.)

16. STARTIN, JAMES.—Two Lectures on Ringworm and other Diseases of the Skin due to Vegetoid Parasites.

17. STARTIN, JAMES.—Acute Pemphigus of Hands while taking Arsenic.

18. SMITH, ALDER.—Diagnosis and Treatment of Ringworm of the Head. (*Lancet*, Jan. 1880, pp. 52, 127, 163.)

19. OWEN, E.—Eczema at the Umbilicus. (*British Med. Journal*, March 1880, p. 357.)

20. FABRE, PAUL.—On the Cutaneous Manifestations of Lymphadenia. (*Bulletin Général de Thérapeutique*, Dec. 15, 1879.)

21. JARISCH.—On the Curative Results of the Continuous Water-Bath. (*Jahresber. des Wien. Allg. Krankenhauses*.)

I. *Manson on Tinea Imbricata*.—The parasitic skin-disease which Hebra first described as eczema marginatum, and in which Köbner first demonstrated the presence of a fungus, is so named by the author. Dr. Manson (*Medical Reports of the Chinese Imperial Maritime Customs*) maintains, in opposition to nearly all European and American dermatologists, that the disease in question is specifically distinct from *tinea circinata*, and that not only the diseases can be distinguished clinically from each other, but that the fungus of each can be distinguished under the microscope. He finds that the conidia in *tinea circinata* are more globular than in *tinea imbricata*, and that the mycelium of the former is distinguished from that of the latter by numerous swellings and constrictions, and other irregularities in outline. The author made some important inoculation experiments. He inoculated *tinea circinata* on one arm of a man, and *tinea imbricata* on the other arm, and thus produced the two readily distinguishable diseases on the same individual. Other experiments produced similar results. The diseases bred true. He also points out that there is a marked contrast between *tinea circinata* and *tinea imbricata* in the parts and extent of the skin they respectively attack. The former elects, in preference to any other locality,

those parts of the body which are usually covered with hair, as the scalp, axilla, and pubes; the latter, on the contrary, avoids those situations. If tinea imbricata spread to a hairy part, the hair-follicles are not invaded by the fungus, as in tinea circinata, and the hair continues firmly implanted, glossy, and natural. Tinea imbricata, if it have been in existence any length of time, involves a very large surface, as an entire limb or side of the trunk, or, oftener still, if not checked, nearly the whole surface of the body. Dr. Manson studied the disease at Amoy; but, with one exception, all the persons affected had acquired the disease in the Straits of Malacca, or in the islands of the Malay Archipelago. [The reporter, some years ago, in two successive papers in the *Practitioner*, insisted on the specific nature of eczema marginatum (or tinea imbricata) and its distinction, clinically, from the common ringworm. Further experience has only confirmed these views. The disease, when localised on the trunk, and with no concomitant symptoms in the perineal region, might, if the patch were small, be easily mistaken for something else, but would never, by an experienced observer, be mistaken for tinea circinata. The reporter lately showed a solitary patch on the anterior surface of the thigh of a patient who was under his care, to a London physician of great experience and repute in connection with skin-diseases. The opinion of this gentleman was that the eruption might easily be mistaken for a tubercular syphilide, but that it could hardly be taken for ringworm.--*Rep.*]

2. *Ravogli on the Structure, Development, and Suppurative Inflammation of the Cutis.*—This paper (*Wiener Med. Jahrbücher*, 1879) gives a report of work done in Stricker's laboratory, and the author's views regarding the histology of the skin are similar to those held by Spina regarding tendon. He looks on the connective tissue corpuscles of the corium and subcutaneous connective tissue as branched cells which anastomose with each other. The processes embrace the bundles and also penetrate their substance. In adult life, the cell-processes develop into elastic fibres. According to this view, we have no more right to look on a connective tissue cell as an epithelioid cell than we have to regard a muscle cell as such. The author further describes the bundles as formed by cleavage (*Zerspaltung*) of the cells. The substance of the cell is continuous with that of the bundle. The inflammatory process is described thus. 'The preparations leave no room for doubt that the connective tissue corpuscles swell in the beginning of inflammation; that through the swelling of the cells and their processes the bundles gradually disappear; and that, finally, when all the *substantia propria* has been replaced by cellular material, the cutis-tissue is transformed into an abscess.'

3. *Pospelow on a Case of Lymphangioma Tuberosum Cutis Multiplex.*—The patient, whose case is described by M. Pospelow in the *Vierteljahresschrift für Dermatologie und Syphilis*, 1879, Heft 4, was a single woman, aged 23. The skin of the face, extremities, and body, was of a pale yellow colour, with small transparent veins, especially on the thorax. It was pigmented in patches, a large patch of deep discoloration existing under the left breast. In the skin of the lower and internal margin of the left breast, there was an oval-shaped tumour as large as a pigeon's egg. The skin covering the tumour was of a light violet rose-colour, thin, and not to be pinched up in a fold. The growth was made up of a number of smaller oval tumours. Grasped between two fingers,

the tumour gave a sensation of considerable resistance. When pressed from above downwards, each small tumour felt like a small gutta-percha ball filled with air, which, on continued pressure, disappeared, the finger then receiving the impression of a round or oval opening, with ill-defined borders, through which the tumour had sunk. On removing the finger, the tumour again appeared above the surface of the skin. In addition to the assemblage of small tumours on the left breast, there were single tumours, varying from the size of a hemp-seed to that of a hazel-nut, scattered over the body. The soles and palms were free. All the tumours were of a rose or light-violet colour, due to venous congestion. By side illumination they seemed transparent, and as if filled with fluid. An incision into one of the larger ones on the back gave emission to a soft mother-of-pearl coloured mass, of the consistence of fresh gelatine. The mother of the patient said that the tumour on the breast had existed from birth; of the appearance of the others no information could be obtained, their existence not having been remarked. The author believes that the only similarly recorded case is one illustrated by Hebra in his Atlas, and described as lymphangioma tuberosum multiplex in the *Handbuch* of Hebra and Kaposi, page 282. Microscopical examination of the tumours showed the connective tissue permeated by enlarged lymph-spaces and lymphatic vessels. Whilst the patient was under observation, the number of the tumours increased, but none of those formerly existing disappeared.

4. *Charlouis on Cases of Erythema Multiforme.*—M. Charlouis describes (*Vierteljahres. für Dermat. und Syphilis*, 1879, Heft 4) cases occurring amongst the Dutch troops in Sumatra, in which erythema multiforme was associated with acute rheumatic symptoms in the joints.

5. *Langer on Striae Atrophicæ in Pregnancy.*—(*Anzeiger der k. k. Gesellschaft der Aerzte in Wien*, No. 28, 1879.) The connective tissue bundles of the skin form rhomboid meshes, and when the integument is distended, it stretches most readily in their long axis. The striae atrophicæ are produced when, from violent stretching, the bundles have in parts become parallel, and have afterwards remained in this position. They are not due, therefore, to rupture, but disarrangement of the connective tissue. This was proved by an anatomical examination, and was confirmed by observing the direction in which the distending force of pregnancy is exerted. This was effected by painting circles on the abdomen before delivery, and comparing them with the corresponding figures seen after delivery. The striae were found in the corresponding directions.

6. *Jarisch's Chemical Studies on Pemphigus.*—The author (*Sitzungsbericht der Akad. de Wissensch. in Wien*, 1879) examined the urine and contents of bullæ from two cases of pemphigus. Urea was found in the contents of the bullæ; ammonia was not found. Urea was also found in bullæ after burns. The results did not, therefore, confirm those found by Bamberger, who, in a case of pemphigus, obtained ammonia both in the blood, in the contents of the bullæ, and in the urine.

7. *Besnier on Cutaneous Myomatous Tumours.*—The case, described by M. Besnier (*Annales de Derm. et Syph.*, tome 1) is as follows. In a woman, aged 60, there were scattered over different points of the skin of the trunk and superior extremities, an eruption composed of: 1. Maculæ of the size of a lentil, of a very pale rose-colour, round or irregularly oval,

scarcely rising above the level of the skin, perfectly analogous to urticaria papuliformis; 2. Small tumours of the form and size of a shot, or pea, or lentil, of a rose-colour, deepening to a dull-red in the larger ones. The discoloration was due to the blood disappearing under pressure by the finger. They were nowhere pigmented; their surface was smooth, and covered with normal epidermis. There was no itching, they were not painful, and had a firm consistence. They had developed within three months. Diagnosis was impossible until one of the tumours was excised and examined, when it was found to be composed of involuntary muscular fibres.

8. *Carry on Xanthoma*.—The author reports (*Annales de Derm. et Syph.*, vol. i) two cases of generalised xanthoma, in which there had been no antecedent affection of the liver or jaundice.

9. *Mégnin on Vegetable Parasites of the Skin*.—Favus was discovered in mice in 1847, and has recently been found in rabbits near Paris. The trichophyton tonsurans was discovered in the horse in 1852. M. Mégnin states (*Annales de Derm. et Syph.*, vol. i) that there is a fungus in the calf which differs from the trichophyton, the spherules being twice as large, having a constant diameter of five to six thousandths of a millimètre. Both kinds inoculated, side by side, in a horse bred true, each to its kind. A similar experiment in the dog had like results. The new parasite he proposes to call trichophyton decalvans. A disease resembling alopecia areata is seen in the horse, with no parasite discoverable. The feathers of a parrot were found undermined by a spherule, which was only one-thousandth of a millimètre in diameter.

10. *Vidal on the Treatment of Lupus by Linear Scarification*.—After experience of this treatment in 120 cases, the author (*Annales de Derm. et Syph.*, vol. i) is well satisfied with the results. He scarifies at frequently repeated sittings with a knife, of which the blade is $2\frac{1}{2}$ centimètres long, and more than 2 millimètres broad, and having a triangular point, the two sharp edges forming an angle of 55 deg. The cicatrix is yielding, smooth, and not depressed nor discoloured.

11. *Leprosy in India*.—A great number of these reports on leprosy have been published, in which, however, there is not much that is new to be found. The question of the alleged contagiousness of the disease is left unsettled. The testimony to the curative effects of gurjun oil is conflicting, but all the reporters agree that it is an excellent external application for leprosy sores.

12. *Pollock on Tinea Favosa Epidermidis Communicated by Mice*.—Mr. C. F. Pollock reports (*Glasgow Medical Journal*) a case in which a girl, aged 5, had favus on one arm. The only conceivable source of infection was that the house was overrun by mice, many of which were affected with favus.

G. THIN, M.D.

17. *Startin on Acute Pemphigus of Hands while taking Arsenic*.—A man, aged 32, had been taking five minim doses of Fowler's solution for three months, for a scaly eruption on his face and hands. At the end of this period, not improving, he was ordered Donovan's solution, beginning with 5 minims thrice a day. Twenty-four hours after beginning this preparation, his hands became hot and tender. Then there appeared a single vesicle on the ring finger, rapidly followed by others; the palmar and dorsal surfaces of the hands were, after three days, swollen and tender, and loaded with vesicles. The arsenic

was omitted; sulphate and carbonate of magnesia, with dilute sulphuric acid, were administered, and locally calamine and acetate of lead lotions, with speedy relief to the symptoms.

18. *Alder Smith on the Diagnosis and Treatment of Ringworm of the Head*.—Mr. Alder Smith (*Lancet*, January 1880, pp. 52, 127, 163) enters very fully into the diagnosis and treatment of this troublesome disease, and his large experience among the boys at Christ's Hospital gives force to his statements. Speaking from experience, Mr. Smith states that, in the majority of instances, the disease is not cured within a year or two of the attack. Many think the fact that the hair grows freely over the parts affected to be a sign of cure, but close examination often shows many diseased hairs scattered about, and these 'disseminated' cases are the most difficult to cure. It is a great mistake to think that ringworm of the scalp usually presents itself as a red spot of a ringlike form almost destitute of hairs; this aspect of ordinary ringworm of the skin being seldom seen on the scalp. The lens is the best agent for diagnosis. Nothing is more difficult than to assert that ringworm is absolutely cured; therefore, the case should be kept under observation for a prolonged period. Parents and friends as a rule will not credit the diagnosis of chronic cases, nor believe the time the ringworm has existed, and the time it will probably take to cure. Very many children in private families have this disease without it being suspected; 8.4 per cent. of the boys sent to Christ's Hospital are found to fall under this category. In 1878 and 1879, 27 girls were examined for the first time, and nine were found to have ringworm—i.e., 33.3 per cent. As regards treatment, a preparation of equal parts of pure carbolic acid and glycerine is excellent in ordinary recent cases, with occasional blistering of any well-marked patch, rubbing in the mixture twice or thrice a day with a sponge mop. In two or three months a complete cure may result. The head should be well washed twice a week, and all loose hairs removed by suitable forceps. Caps must be worn at night to prevent the application from fouling the pillows, and so causing irritation on the face. The best form of cap is a linen lining, that can be washed, covered with oil-skin under black silk, or any fancy covering. A very good ointment is the following: carbolic acid (pure), strong citrine and sulphur ointment, in equal parts. Chrysophanic acid ointment is very good; not superior, however, to the preceding. Coster's paste, or two drachms of iodine and six drachms of oil of cade, freely applied to recent patches, is excellent. In all cases of body-ringworm the head should be examined, as it is very often only secondary to chronic scalp-disease. In the treatment of chronic ringworm, Mr. Marshall's oleate of mercury is most efficacious, rubbed well into the entire scalp with a small sponge mop, night and morning, after cutting the hair short. Once a fortnight, a head bath with soft soap is to be used: not more frequently, because water prevents the oleate from penetrating to the bottom of the hair-follicles. Three to six months' active treatment is generally rewarded by a cure. In obstinate cases, artificial kerion must be induced over those spots that resist the action of the oleates; a drop of croton-oil, to produce pustulation, and then epilation to remove the diseased hairs. Epilation, and careful scrutiny with a good lens, are essential in the radical cure of many chronic cases. Tonics, change of air, and general hygienic means, hold an important place in treatment.

19. *Owen on Eczema at the Umbilicus*.—The cause

of this troublesome affection, Mr. Owen points out (*British Medical Journal*, March 1880, page 357) to be a polypoid growth springing from the bottom of the umbilical depression, and hidden by the overhanging folds of skin. The only cure is removal by ligature, which at once relieves all symptoms.

R. NEALE, M.D.

20. *Fabre on the Cutaneous Manifestation of Lymphadenia*.—Dr. Paul Fabre, Surgeon to the Mines of Commentry, read at a recent meeting of the Paris Académie des Sciences a paper on the cutaneous manifestations of lymphadenia, in relation to a fungoid mycosis. The writer could, in the succession of the symptoms of this disease, recognise four periods, sometimes very distinct, but most generally following closely the one on the other; 1. An initial period, characterised by the appearance on the skin in successive outbreaks of congestive spots simulating urticaria or papulous erythema, or even eczema at the outset of the eruption; 2. A period of lichenoid, showing persistent papule with troublesome itching, accompanied by sleeplessness; 3. A transition period, in which the eruption of lichen coincides with the presence of indurated reddish-brown patches, then finally with the appearance of the first neoplastic tumours; 4. And last, a cachexia in the case which he observed. M. Paul Fabre noted as etiological elements the unhealthy conditions of damp, ill-lighted, confined dwellings; finally, he pointed out the co-existence in the patient of a weakening of the memory and of the other intellectual faculties.

21. *Jarisch on the Curative Results of the Continuous Water-Bath*.—Jarisch, in the Annual Report of the General Hospital of Vienna, reports that this mode of treatment, which has been employed in a long series of cases in Dr. Hebra's wards, appears to influence very favourably and to cure quickly, superficial skin-diseases and diseased processes such as pemphigus, psoriasis, impetigo, superficial gangrene, bad sores, syphilitic ulcers, etc.; on the other hand, deeper inflammatory processes, such as burns, deep suppurations, carbuncles, and diseases of the bones, do not appear suitable for treatment by the continuous bath.

REVIEWS.

Leçons d'Anatomie Générale faites au Collège de France. Par M. L. RANVIER. Année 1877-1878. Appareils Nerveux Terminaux des Muscles de la Vie Organique. Cœur Sanguin; Cœur Lymphatique; Œsophage; Muscles Lisses. Leçons recueillies par M. WEBER et LATASSE, revues par le Professeur. Paris: G. B. BAILLIÈRE. 1880.

The lectures given in general anatomy during the year 1877-1878, at the College of France, by M. Ranvier, are just published. They treat of the nervous system of the heart, of the lymphatic heart, of the œsophagus, and of non-striated muscle.

The instruction given at the college of France does not consist of expositions of theory, neither does it seek to demonstrate, by the aid of experiments, facts already known to science. It aims solely at laying facts before its listeners, and making them see with their own eyes. Science, so to speak, feels its way, it has its moment of hesitation, and also its bold march onwards, effected by a few men who devote themselves solely to its study. These ex-

planatory remarks are made for the benefit of those who, not acquainted with the teaching of the College of France, and believing it to be similar in kind to that of the universities, might expect to find in this book an exposition of everything known concerning the heart.

M. Ranvier at one time makes use of physiology to complete the notions given by histology; at another he turns to histology to make physiology clear. We will pass rapidly in review the subject matter of this volume. The author recognises in the heart, besides the fibres of Purkinje, two other kinds. In the first kind the fibrils are parallel, and in the second they are massed together in different directions, and are seen just at the point where the meshes of the network anastomose. From these facts, M. Ranvier draws the conclusion that the form of an organ does not depend on the cells by which it is constituted, but that, on the contrary, the embryonic cell lends itself to the exigency of the organ which it constitutes; that the fibres of the myocardium are enveloped in a cylinder of protoplasm, which is also accumulated round the nucleus and penetrates between the fibrils; that the muscular fibre has not an envelope; and that the fibrils which compose it are not simple fibrils comparable to those of striated muscle, but that they themselves are formed of extremely thin fibrils.

Having shown that the structure of the elements of the muscular tissue of the heart cannot explain its rhythmic contractions, M. Ranvier studies these movements on a ventricle from which the nervous ganglia have been removed, and succeeds in showing that striated muscle possesses rhythmic movements, though in a minor degree. This fact has already been ascertained by Brown-Séquard, who observed it in animals which had just been killed, but his hypothesis, not being based on sufficiently conclusive experiments, was not accepted by physiologists. M. Ranvier, adapting the experiments of Bowditch on the phenomena of the staircase (*Treppe*) and modifying them so as to admit the study of the tonicity of the heart, arrives at the conclusions, that, if experiments be made in this direction, the experimenter will certainly perceive that the contractions and the tonic convulsions are only different forms of tetanus accompanying tonicity; and that the nervous trembling is nothing else than a phenomenon furnished by a rhythmically acting muscle under the influence of a minimum degree of stimulation. The author tells us that, except in a work by Luciani, there is no experimental research to be met with on the tonicity of the heart and other muscles, although the word is used constantly in medicine; he then combats the opinion generally admitted that when, in making a *post mortem* examination, the heart is found contracted, it is to be assumed that death took place during its systole; that the action of the heart stopped at this moment, as though stunned. To M. Ranvier, it seems more probable that the action of the heart gradually exceeds its normal maximum, and that its pulsations are divided by longer intervals, and not being able to relax, circulation is arrested and death ensues.

Professor Ranvier then proceeds to study the ganglia of the heart of the frog. He describes the spiral fibres of Beale, and gives a method superior to that of the latter for making evident and examining the well-known argument which Dr. Beale maintains in opposition to Kölliker, who asserts that the ganglion-cells of the heart of the frog have not any relation to the pneumogastric nerve, and also that

they are only unipolar or apolar. M. Ranvier supports Dr. Beale's opinion.

A series of experiments on the function of the ganglionic system of the heart leads to the following results. Mechanical stimulation quickens the pulsation of the ventricle; if it be isolated and not deprived of its ganglia, it assumes fresh activity; when left to itself, this lessens. The auricles, when feebly stimulated, beat more quickly; when powerfully stimulated, their pulsations become slower or disappear. Electrical stimulation produces the same effects; hence M. Ranvier draws the conclusion that the ganglia of the ventricle are motor ganglia, but that the ganglia of the auricle are principally inhibitory. In a physiological condition, the influence of the motor centre predominates; the heart is always in motion. When, however, the stimulation is direct and forcible, then the inhibitory influence predominates and the organ stops. The author is also of opinion that the cells with spiral fibrils, which for the most part are found in the nerves of the septum, are inhibitory nerves; but the other kind of ganglion-cells, found in the greatest number in the ganglia of the ventricles, are motor cells. These alone cannot make the ventricle pulsate, for, when the ventricle is separate from the auricle, it stops beating. Thus it is evident that they are under the influence of a stimulus, which has not its origin in the cerebro-spinal centres, because the heart beats after it is withdrawn from the body. M. Ranvier is inclined to attribute this stimulating agency to the cells with spiral fibres, which are therefore both inhibitory and acceleratory in their influence.

The author thus interprets the mutual relation of the nerves and muscular elements. The nerve-fibres traverse the muscular ones at the level of their protoplasmic or marginal mass, so that they present the appearance of beads threaded on a necklace. The nerve-fibrils divide and anastomose just where the muscular fibrils of the second kind meet with those of the first, so that the muscular network contains meshes of nervous plexus, which represents exactly its form. M. Ranvier, however, does not admit that the cardiac and motor nerves terminate in a plexus; he thinks, although not able to demonstrate the fact, that this plexus sends small branches which terminate separately, as in the plates of the electrical organ of the torpedo.

Of the lymphatic heart, which has hitherto only been observed in reptiles, fishes, and birds, we shall say but little. Nevertheless, attention must be drawn to the circumstance that M. Ranvier has confirmed the already observed fact, that the muscular fibres of these organs are striated and anastomosed; also that the nerves which terminate in these fibres have the end-plates or terminal expansions of the motor nerves. They are very evident and extremely numerous. Finally, the lining epithelium belongs to the lymphatic type.

After studying the heart and the lymphatic heart, M. Ranvier proceeds to study the œsophagus. He satisfies himself that the description given of it in all the treatises on anatomy is correct, and then studies its muscular coat. He tells us that the terminations of nerve-fibres are more numerous in it than in any other organ, and resemble those in voluntary muscles; but before their termination the nerves are in contact with a microscopic ganglion, which they either traverse or receive from it a nerve-filament, composed of fibres without myeline, always at the point of an annular constriction.

A series of most interesting experiments, too long

to be here described, leads M. Ranvier to reject the theory invented by Wild and adopted by Mosso, to explain the peristaltic movements of the œsophagus. M. Ranvier believes that, if the nerve-cells of the œsophageal plexus cannot unaided induce the movements of the muscular coat, and this is satisfactorily demonstrated in the case of consecutive paralysis, after the two pneumogastric nerves are cut they can at least receive and store up a motor stimulus, having its origin in the central nervous system, and can impart it in a certain measure. These cells act one on the other from above downwards. This theory has in its favour the slowness of the peristaltic movements of the œsophagus, a slowness not in proportion with the quickness of transmission in the central nervous system. The structure of the œsophagus presents striated fibres in the superior portion, non-striated in the inferior; they both are innervated by the same nerves. This fact gives M. Ranvier the opportunity of assuring himself that curari acts only on the terminal expansions of the motor nerves; for, in the case of an animal curarised, the superior part of the œsophagus only is paralysed.

Finally, M. Ranvier studies the non-striated muscle, and the distribution of nerves to the alimentary canal and its nervous ganglia. He begins by describing the termination of nerve-fibres in muscular tissue, which he studied in the muscles of the gastric *culs-de-sac* of the leech, and in the contracting muscle of the body of the helix. This nerve-termination consists of a small irregular swelling situated on the surface of the muscular fibre. M. Ranvier denominates it the 'motor spot'.

A comprehensive view of the whole muscular system of the animal kingdom leads the author to arrive at the following conclusions, and their importance is self-evident. The involuntary muscles, whether they be striated or non-striated, are stimulated by the nerves which form themselves into a ganglionic plexus immediately before their termination. Voluntary muscles, striated or non-striated, are innervated by nerves coming direct from the central nervous system, and have no ganglia on their way to modify their motor stimulus, which comes directly from the central system.

W. VIGNAL.

Pay Hospitals and Paying Wards throughout the World: Facts in Support of a Rearrangement of the English System of Medical Relief. By HENRY C. BURDETT. Pp. 176. London: J. and A. Churchill. 1879.

The profession owe to Mr. Burdett a debt of gratitude for his energetic and sustained efforts towards a reform in the present unsystematic and improvident system of medical relief; and he has now codified in the present work the large fund of information which he has gathered together on the subject. The book is characterised by two broad features: the one, a critical examination of the causes of the financial difficulties of most of our hospitals, with suggestions for their improvement; the other, an elaborate and cogent argument in favour of the establishment of separate hospitals for those who can afford to pay for their treatment, but whose resources forbid their commanding at home the many conveniences and appliances which are afforded by every well-ordered hospital.

Mr. Burdett gives figures which show the enormous abuse of hospitals that is continually going on—a very large proportion of those who apply for gratui-

tous medical and surgical relief being quite able to pay at least something for their treatment. These not only exclude poorer and more deserving cases from the hospital benefits, but deprive the ordinary practitioner of the fees which are justly his due, and which he can ill afford to lose. Under these circumstances, Mr. Burdett formulates a scheme which will put an end to this abuse, and will at the same time dispose of a difficulty which has been felt by those who have written and spoken on the subject of pay patients. Mr. Burdett believes that in a clear distinction between poor paying patients and remunerative-paying patients, and in their separate treatment, is to be found the solution of this question. He gives at length the favourable experience of America, and nearly every European country but Russia and England, in the working and financial success of the system of pay patients, and argues that what is possible elsewhere is possible in England.

As a comprehensive and able review of the whole question of pay hospitals and paying wards, Mr. Burdett's book should commend itself to the study of every one connected with public medical institutions. We observe with peculiar pleasure the strong insistence made by the author upon the adequate remuneration of the medical officers of hospitals where pay patients are received. He observes that no arrangements can be considered satisfactory which do not make provision for the proper payment of the medical staff. With the medical difficulty removed, 'nothing remains', according to Mr. Burdett, 'but a fair field and no favour for the simultaneous introduction at all the large English hospitals of the pay or American system of hospital administration'. We are afraid this is a somewhat sanguine view of the case; but the experiment is well worth trying, and we trust that Mr. Burdett's painstaking and complete little book may be the means of bringing about the reforms for which he has so earnestly striven.

The Truth about Vaccination: an Examination and Refutation of the Assertions of the Anti-Vaccinators. By ERNEST HART, Chairman of the Parliamentary Bills Committee of the British Medical Association, etc.—Pp. 87. London: Smith, Elder, and Co. 1880.

However convinced a medical man may be in his own mind of the utter groundlessness of the mischief alleged to have been caused by vaccination, it is not always easy to convince parents of the fallacy of the assertions of the anti-vaccinators. Moreover, there is on the part of certain parents a reluctance to allow the operation to be performed, through doubts, engendered by the misstatements of anti-vaccinators, as to the efficacy of vaccination as a protective against small-pox. In these circumstances, a practitioner is not unfrequently somewhat bewildered for the moment to find arguments with which to combat the prejudices of his clients, since the evidences in favour of vaccination are not all readily accessible. A little book has now been prepared by Mr. Hart for the express purpose of combating the anti-vaccinators' objections, and of giving, in a handy and compendious form, the real facts as to vaccination. An endeavour has been made to make this pamphlet as complete a handbook on the subject as its size would allow; and it may possibly be of service to the perplexed and over-worked practitioner

who is annoyed with trivial and unfounded objections, the merits of which he has himself no leisure to examine.

NEW INVENTION.

FLETCHERS' CONCENTRATED LIQUORS.

We have received from Messrs. Fletcher and Fletcher samples of a very useful class of preparations lately introduced by them, their Concentrated Liquors for the immediate production of chemical syrups. Chemical syrups are much in favour with the profession, but they are a source of considerable trouble to the pharmacist, owing to their natural tendency to decomposition in some cases, as well as to other causes needless to enumerate. Messrs. Fletcher's solutions being of definite strength and unalterable, both in composition and appearance, any quantity of a required syrup can be made by their instrumentality at a moment's notice. Thus freshness and certainty of composition are ensured, no trifling boons both to prescriber and pharmacist. We note amongst them all the modern combinations of iron with phosphorous, quinine, strychnine, iodine, and calcium phosphate, as well as solutions of phosphate of zinc, phosphorus, etc. These useful and valuable preparations, which we doubt not will meet with the success they deserve, are to be obtained of the makers, Messrs. Fletcher and Fletcher, North London Chemical Works, Holloway Road.

MISCELLANY.

FOGS.—Dr. J. H. Shorthouse in the *Lancet*, February 1880, p. 356, makes an important suggestion for clearing rooms of fog. The steam from a bronchitis kettle will quickly render the atmosphere of the apartment clear and pleasant. Dr. Shorthouse suggests the use of a steam engine to purify the atmosphere of the streets in times of dense fogs.

A LITERAL INTERPRETATION.—A story is told of a Cincinnati physician who was fond of clothing his prescriptions in technical and skilled language. A Spanish family came to the city, and one of its members was taken ill. The family understood a little English and called in this doctor. He gave them a prescription for pills and he wrote the direction: 'One pill to be taken three times a day in any convenient vehicle.' The family looked in the dictionary to get at the meaning of the prescription. They got on well until they got to the word vehicle. They found 'cart, wagon, carriage, buggy, wheelbarrow'. They saw anything but the technical meaning of the word they were looking for. After grave consideration they came to the conclusion that the doctor meant he should ride out, and while in the vehicle he should take the pill. They adopted this interpretation, and the patient derived considerable benefit, but whether from the pill or the drive history saith not.

TIGHT LACING.—Dr. D. Duckworth in an able article (*Practitioner*, January 1880, page 11) calls attention to the unquestionable fact that women, in all ranks of life, continue, in numberless instances, to wear stays that compress their bodies to an abominable extent. Though marked instances of 'tight-lacing liver' are not likely to be so frequent as formerly, yet a good deal of injury to various organs, and of impaired health, are due to over compression of the tumuli in women. Besides general impaired health, many cases of dyspepsia and chronic vomiting in young girls are due to tight lacing. In addition to mere compression, steels and whalebones add to the difficulties,

so that it is quite impossible for the wearer to stoop, run, or take wholesome exercise; and it comes to this, that many women only carry on proper respiration during the night, when their stays are off. The remedy appears simple, but practically it is not so, as women will not be persuaded in this matter. Dr. Duckworth suggests that this might be a field in which lady practitioners could do good. The article is well worth perusal.

HOW URARI IS MADE.—Dr. Richard Schomburgk, the director of the Adelaide Botanical Gardens, has just published a *brochure*, in which he states what is known as to the method of preparing urari or curare, the famous deadly arrow-poison of some of the Indian tribes in British Guiana. His brother in 1837 vainly endeavoured to witness the manufacture of this poison; but Dr. Schomburgk himself, in a visit to the Canuku Mountains, near Pirara, in 3 deg. 33 min. N. and 59 deg. 16 min. W., succeeded in getting an old Macusi Indian to show him the method of manufacture among that tribe. The Indian, after promising to comply with Dr. Schomburgk's request, tried every possible means of evasion, but the addition of more powder and knives brought him to the point. The process was carried out in a small hut in the village known as the urari house. The Indian began first to take the bark from the strychnos, which they had brought from the Ilamikipang, and then produced the other ingredients, and separated the required quantities. The native names of the other plants used are tarvieng, wakarimo, and tararemu, to all appearances also species of strychnos. The Indian said they grew far away in the mountains at five days' distance. The preparation of the several ingredients would be, according to weight, as follows:—Bark of strychnos toxifera, two pounds; strychnos Schomburgkii, a quarter of a pound; arimaru (*strychnos cogens*), a quarter of a pound; wakarimo, a quarter of a pound; root of tarvieng, half an ounce; root of tararemu, half an ounce; the fleshy root of muramu (*cissus spec.*); four small pieces of wood of a tree of the Natural Order Nanthoxyleæ, called manuca. The old Indian, having finished his preparations, went to his hut and returned with a new earthen pot, holding about seven quarts, and two smaller ones, also quite new, formed like flat pans. In the first vessel the poison was to be boiled, in the other it was to be exposed to the sun for condensation. The great strainer or funnel, made out of palm leaves, was cleaned, and fresh silk grass was put into it to strain the fluid. A great block of wood sunk into the ground to serve as a mortar was cleaned, and in it the several ingredients were crushed. The urari preparer, after having arranged everything, built a hearth with three stones, laid the wood ready to light the fire, and went away to fetch (as Dr. Schomburgk was informed, for he had not exchanged a single word with the old Indian) the utensils to light the fire, though there was a large fire burning, which was of no use, having been lighted by profane hands. Neither dared the Indian use any water, except that brought in the pot to be used for the operation; in fact, no other implement could be used but such as had been made by the cook, neither would he have assistance from any of the inhabitants. Any transgression of the sacred rules would nullify the operation of the poison. In addition to the fleshy root of the muramu he crushed the several kinds of bark, but each one singly, in the mortar, lighted the carefully piled-up wood, and then threw first into the pot, which was filled with water, the bark of the strychnos toxifera. As soon as the water began to boil the Indian added at certain intervals a handful of the other ingredients, except the muramu root. In doing so he bent his head over the pot, strongly blowing into the mixture, which, he said afterwards, added considerably to the strength of the poison. During the process he only kept as much fire as was necessary for slow boiling, carefully skimming the foam collecting on the extract. Within the next twenty-four hours the old man left the fire only for one moment, keeping the mixture at an equal heat. After the lapse of twenty-four hours the extract became thick, and was reduced by the boiling to about a quart, the colour being that of strong coffee. The old cook then took the extract from the fire and poured it into the strainer, the extract trickling slowly into another

flat vessel, and left the remainder in the silk-grass. After exposing the strained extract to the sun for about three hours he added the slimy juice pressed out of the root of the muramu, which had previously been soaked for a short time in the boiling poison and then had been pressed out. The poison immediately exhibited a remarkable alteration, curdling to a jelly-like substance. After this peculiar process he poured the poison into earthen vessels, flatter than those before mentioned, for the purpose of bringing the poison to a consistency equal to that of thick treacle, by exposing it to the sun. Afterwards it was poured into the peculiar small calabashes, or half-round earthen vessels, manufactured only for that purpose, where it ultimately changed to a hard substance. On the third day the poison was ready, when the cook, satisfied with the product, tried the strength of the poison on some lizards in Dr. Schomburgk's presence. He dipped the point of a pin into the poison, let it dry, wounded one of the lizards in one of the toes of the hind foot and then let it run. In nine minutes the peculiar symptoms of the poison made their appearance, and one minute afterwards the slightly wounded animal was dead. A rat died in four minutes, and a fowl in three. The Indians declare the poison loses its effect after two years, but its power can be restored by pouring some manihot juice upon it. Dr. Schomburgk took some of the urari to Berlin with him, and made several experiments with it, when he found that it frequently took from fifteen to twenty minutes, according to the tenacity of life, before death ensued. A commission of scientific men was appointed by the German Government to report on the effects of the poison, and many experiments were made, from the frog to the horse. Professor Heintz made a careful analysis of the poison, and, though it was made from strychnos, he found it contained no strychnine. From experiments made by Professors Virchow and Mûnter they conclude:—1. That the urari kept dry will, after the lapse of five years, retain its intense and rapid efficiency; 2. That it has no effects like those of strychnine; 3. That it is not a tetanic poison, but operates by stupefying; 4. That urari causes palsy, produces a discontinuance of the voluntary movements of the muscles, with continued functions of the involuntary muscles of the heart, intestines, etc.; 5. That the external application of urari is not fatal, but only when absorbed through a wound; 6. That death is not the direct result of poisoning, but of the discontinuance of the mechanical action of respiration.

DISSIPATED HORSES.—The occurrence among horses of a depraved appetite, somewhat akin in its ultimate effects to opium-eating in the human subject, is recorded in the Far West by a medical officer of the United States Army. He states that in Colorado and California certain wild plants are known as 'loco-plants', the word 'loco' denoting foolish, being applied to them on account of the curious form of dementia they produce in animals eating them. Whether the animals, generally horses, take to the plants at first from necessity or choice, is doubtful, but it is certain that when once they have commenced, they continue eating them, passing through various stages of temporary intoxication until they become a complete nervous and muscular wreck; finally death ensues from starvation or inability to digest other and nutritious food. Sometimes towards the end the animal appears sullen and stupid, at others vicious and frenzied, at others again, the fatal symptoms are those of blind staggers.

UNQUALIFIED ASSISTANTS.—According to a writer in *Cassell's Family Magazine* for January 1880, those useful birds, pigeons, have been employed for some time by Mr. Harvey J. Philpot as 'unqualified assistants', or apothecaries' messengers. While out on practice Mr. Philpot takes half-a-dozen birds along with him on his rounds in a small basket, and, after seeing a patient, ties the prescription round the neck of one of them and liberates him, when he flies straight home to the surgery, where the medicine is prepared and sent to the patient without loss of time. Should any patient be very ill, and an early report of his condition be desired by the physician, a bird is left with him to bring the latter tidings.

The London Medical Record.

BERGMANN ON THE TREATMENT OF INJURIES OF THE HEAD.

PROFESSOR E. BERGMANN, of Würzburg, in a long contribution (*Aerztliches Intelligenz-Blatt*, Nos. 7, 8, 9, 1880) testifies as to the great value of the antiseptic method in the treatment of injuries to the head. In support of his opinions on this subject, he records thirty-two cases of such injuries, that were treated by him during one year of hospital practice. Of these, sixteen were cases of scalp-wound, four were cases of extensive denudation of portion of the skull, and twelve were cases of fracture of the cranial vault.

In one class of head-injuries, the chief danger consists in the immediate or remote results of wounding some important cerebral region, in wounding a large intracranial vessel, or in the development of cerebral oedema. In cases of this kind, the presence or absence of an external wound is quite immaterial. The danger exists, whether the lesion be subcutaneous, or whether it involve the skin; and consequently, in the treatment of such injuries, Lister's treatment can have no good result. A second and larger class is that in which the lesion is dangerous, not so much in itself as in its association with external influences. In the prognosis of a case of such injury, the presence or absence of an external wound is an important factor. A fracture of the vault of the skull with slight if any injury to the brain, if not associated with an external wound of the scalp, is just as free from danger as a simple fracture of the arm or leg; indeed, if the risk of fatty embolism be considered, is perhaps less dangerous. But fracture of the skull, when compound, is a much more serious injury than compound fracture of an extremity. In each there are the same risks of phlegmon, necrosis, osteomyelitis, thrombosis, septicæmia, pyæmia, and erysipelas; but in the former there is an additional danger in consequence of the close neighbourhood to the seat of injury of the brain and its meninges. This renders compound fracture of the skull so very dangerous, even if there be no depression or splintering of bone. Near the seat of fracture, and perhaps involved in the injury, is the pia mater, a very vascular membrane, in which inflammation may be readily excited, and through which infection may be rapidly transmitted. Leptomenigitis phlegmonosa is the most frequent fatal complication of compound fracture of the skull, and constitutes, therefore, the most threatening danger. Traumatic inflammation of the pia mater may be regarded as due to external influence. It does not occur as a result of simple *commotio cerebri*, and has never been observed, save in association with a wound of the scalp. To cases of head-injury in which suppurative inflammation of the pia mater is threatened, Lister's treatment is especially applicable, since the recognised object of the antiseptic method is to guard an open surface from the contact of such agents as may excite inflammation.

The meningitis resulting from head-injury is rarely localised. As a rule it spreads widely and rapidly, and, therefore, is almost invariably fatal. It kills,

because through purulent effusion it destroys the function of the superficial portions of the cerebrum. It is in consequence of the fatality of inflammation of the pia mater, that the prognosis of compound fracture of the skull is so unfavourable. Traumatic meningitis, however, does not occur only in compound fracture; it may result from denudation of a portion of the cranium, and even from a wound of the scalp. Pyæmia is an equally serious complication of open head-injury, and is more likely to occur in fracture of a cranial than in fracture of any other bone. This affection, however, is usually associated with suppurative leptomenigitis.

Since the antiseptic treatment prevents phlegmon and pyæmia, it will also protect the patient against meningitis, the most frequent cause of death from open head-injury, and so reduce the mortality of this class of cases. It must be remembered, however, that though this treatment may prevent suppurative inflammation and its results in cases of injury to the skull and brain, it cannot help in establishing regeneration of nerve, or in preventing the degeneration that frequently follows solution of continuity in nerve-structures. All that the surgeon can hope in the treatment of a wound of the brain is, that such wound may heal to the same extent and with as little reaction as that of an apoplectic focus. The cicatrix formed after a wound of the brain may be the starting-point of some progressive degeneration of nerve-tissue, such as yellow softening and diffuse sclerosis; such conditions do not depend on suppuration, and so cannot be prevented by antiseptic treatment. In the future, as in the past, a certain proportion of those who have recovered from the immediate effects of head-injury will become the subjects of epilepsy, mental disorder, and progressive paralysis.

The author, in referring to his sixteen cases of scalp-wound, in all of which the patients recovered, states that this good result proves little, or indeed nothing, in favour of Lister's dressings. The prognosis of linear and flap-wounds of the scalp, whether produced by sharp or by blunt instruments, is very good. These injuries usually heal well under different plans of treatment, provided the surgeon knows when to close the wound and when it is better not to close it; and, above all things, when he can spare time and pains in watching his patient carefully in order to give early exit to any accumulation under the skin of inflammatory products. The duration of treatment in most of the cases treated by the author was unusually short. Nine patients were discharged between the fifth and eighth days; four patients on the fifteenth day; and three patients at the end of the third week. In none of these cases did erysipelas attack a patient under local antiseptic treatment. In one case a lad, aged 14, was suffering from erysipelas when first seen, but was treated by the application of antiseptic dressings, and made a good and speedy recovery.

In estimating the results of any plan of local treatment of open head-injury, it is necessary to distinguish between recent and late cases; between those in which reaction has not yet commenced in the wound, and those in which it has. Much has recently been done to render an inflamed and infected wound again aseptic, but antiseptic dressings cannot be applied with so much certainty of success to an infected as to a perfectly fresh wound. In order to deal effectually with the former it is necessary, before the application of the dressing, not only to cleanse the wound thoroughly with a disinfectant solution, but also to scrape away the parts

already infected, and to leave the open surface and the surrounding parts in the same condition as a fresh wound. In dealing antiseptically with a compound fracture of the skull, Professor Bergmann, as a rule, rests content, after free exposure of the seat of fracture and disinfection of the wound, with removing loose splinters of bone. The rest of the injured portion of bone is left *in situ*, and no sharp edges are removed. In the majority of cases of fissured fracture it is useless, and indeed injurious, he states, to do more. The mere existence of a depression, the fact that one margin of a fracture is below the level of the other, does not, in the absence of cerebral symptoms, indicate any further steps. On the other hand, when the fracture is circumscribed and limited in extent, there is usually considerable splintering of the vitreous layer, and primary trephining is recommended. The presence of cerebral symptoms should influence treatment only when such symptoms occur as indicate a large extravasation between the skull and the dura mater. In such a case the blood should be removed, and the bleeding artery, the middle meningeal, tied. The scalp having been shaved and cleansed, first with soap and water, and next with a solution of carbolic acid, the wound is carefully disinfected. For this purpose the author used in recent cases a three per cent. solution of carbolic acid, and for wounds more than two or three days old, an eight per cent. solution of chloride of zinc. Any exposed portion of brain is not likely to be injured by the contact of either of these solutions. The margins of the wounds are next pared, and contused portions of its edges and surfaces removed. The freshened edges of the wound are now brought together by sutures of unbleached silk, taken from a strong boiling solution of carbolic acid. It is held to be very important that the edges of the wound should be brought into close apposition, and yet that tension of the surrounding soft parts should be avoided. If it be necessary for such purpose, the author does not hesitate to perform a kind of plastic operation, and to shift flaps of skin from adjacent regions of the scalp. Traumatic necrosis of the cranium is due, it is held, not to denudation of a portion of a cranial bone, but to the consequent inflammation and suppuration. In applying the sutures, room must be left for a drainage-tube, a short piece only of which is used by the author. He objects strongly to a long piece of tubing carried across the wound like a seton, as this must raise the flaps and prevent their speedy union with the subjacent bone. The wound is now covered by the antiseptic dressing. Professor Bergmann does not use any protective, and applies gauze saturated with a solution of corrosive sublimate, which he regards as a much more effectual parasiticide and less volatile than carbolic acid. This dressing is covered by thick and extensive layers of wadding and a firmly applied bandage. In all cases but those of extensive wounding, and in which there has been some recurrent hæmorrhage, the dressing is allowed to remain for at least three days, and, in some slight cases, it is not changed until the eighth or ninth day. In many cases, patients who formerly would have been treated in bed and on low diet, are, after the application of the above dressing, allowed to get up and move about. It is pointed out, however, that, in cases of cranial fracture and other severe head-injuries, it is very important for the patient to be kept at absolute rest. Thrombi are readily formed in cases of fracture, and these with brusque movement of the patient may be readily detached.

In commenting on a case of depressed fracture of the skull with circumscribed injury to the brain, the seat of which could be diagnosed, the author endeavours to prove the uselessness of elevating or removing the depressed margin of bone. It is commonly held that, in a case of this kind, the depressed fragment either compresses or penetrates the subjacent portion of brain. This, however, occurs only when considerable and fine splintering of the bone has taken place, or when the force causing the fracture has also driven some fragments into the brain. Thus, in gun-shot fracture of the skull, some fragments of bone are almost invariably driven inwards. But in cases where the margin of a large fragment is depressed, the wound of the brain has been produced at the moment of the fracture, the margin of the bone having been driven inwards by the force causing the injury. But as soon as this force has ceased to act, the fragment rebounds, and in consequence of the elasticity of the bone does not remain at the level of the wound in the brain. A curved portion of a cranial bone, before breaking, will be depressed and flattened. If a dry skull be filled with paraffin and thrown to the ground without receiving any fracture, on removal of the vault, a depression will be found in the paraffin corresponding to the point of impact on the external bone. In this manner, the surface of the brain may be wounded without any fracture of the skull. In the same way, in case of fracture, the portion of bone that is struck is also depressed and elevated. The fissure gapes at the moment of the injury, and then suddenly closes. Hairs and portions of felt are often found caught between the margins of a cranial fracture, and occasionally a blood-vessel. A depressed portion of broken cranial bone rarely remains in contact with the corresponding portion of brain after the expenditure of the force causing the fracture, and therefore, the author holds, it is useless as well as dangerous to try to elevate such fragments. But it may be conceived that a depression of a portion of the brain-case may reduce the space appropriated to the brain, and therefore interfere with the intracranial circulation and give rise to œdema. To bring about such a result, however, the depressed fragment must be one of considerable extent, and an adequate injury would also cause much intracranial effusion of blood, occupying more space, and interfering more with the cerebral circulation than any displaced portion of bone. A clot may exist under a slight depressed fracture, and there will always exist pressure on the brain. The pia mater at the seat of the wound in the brain is regularly infiltrated with blood. Laceration of vessels and effusion of blood into the subarachnoid sinus, with displacement of the cerebro-spinal fluid, cause a change in the circulation at the seat of injury, which change leads to local œdema, and to the propagation of traumatic swelling. It is not in the power of the surgeon to remove the cause of this disturbance, and therefore an operation would be useless, and indeed dangerous, since it would convert a very small fissure into a wide communication with the cerebral wound.

W. JOHNSON SMITH.

BERGMANN ON INDIRECT GUN-SHOT FRACTURE OF THE BASE OF THE SKULL.

PROFESSOR BERGMANN of Würzburg, in a contribution on indirect fracture through gun-shot wound of the

base of the skull (*Centralblatt für Chirurgie*, No. 8, 1880), describes six specimens of this injury supplied by Professor von Wahl from the seat of the late Russo-Turkish war. At the necropsy made on President Abraham Lincoln, it was found that the bullet had entered the occipital bone, to the left of the middle line, and, after having passed through the transverse sinus and the posterior cerebral hemisphere on the left side, had rested in the anterior portion of the corpus striatum. After removal of the brain both orbital roofs were found to be fractured. During the short interval between the assassination and death, ecchymosis had been noticed, at first in the left and afterwards in the right upper eyelid, and there had been also slight protrusion of the eyeballs. This was clearly an instance of fissured fracture by contrecoup—a result of gun-shot injury, of which very slight mention had previously been made in surgical literature, and the conditions of which would not for a time be clearly made out. From investigations that have since been made on the mechanical action of bullets discharged from modern hand firearms, it would seem that the chief factor in the production of this fissuring by contrecoup is the forcible centrifugal pressure that is caused through the violent intrusion of a modern projectile into the soft and pulpy brain. In some experiments made by Busch and Kocher, it was found that, on firing at short distances into a skull filled with soft brain-substance, the cranial walls were broken up in all directions and widely scattered. The result was as if a bullet had been discharged into water, and the fluid medium had transmitted without any interference the shock to all points of the inner surface of the skull. The six skulls described by the author are instances of fracture of one or both of the orbital plates, in association with a gun-shot wound in some other portion of the skull. Four of the specimens had been sent from Plevna, and two from Sistova. In the first specimen, there was a comminuted fracture in the middle of the left limb of the coronal suture, and also a wide fissure in the roof of the left orbit, which fissure commenced at the incisura ethmoidalis, and passed forwards and outwards for a distance of a little more than one inch. The seat of this fracture was covered by extravasation, which extended through the cleft into the orbital cavity. The second specimen presented an extensive comminuted fracture in the frontal and temporal regions of the right side, some portions of the fractured bones having been detached and driven into the brain. From the margins of the extensive orifice thus formed, several long fissures extended to different portions of the cranium. Both orbital plates were broken into several small fragments, and the vertical plate of the ethmoid bone was also fissured. The third specimen was one of comminuted fracture, commencing at the junction of the anterior and middle thirds of the sagittal suture, and extending backwards and a little outwards. Six fragments of bone, the largest about half an inch square, and each of the others a little less than this, had been driven into the corresponding portion of the surface of the brain. The horizontal plate of the ethmoid bone was broken up into numerous fragments, and from the seat of this fracture a few capillary fissures extended over the roofs of the orbits. The fourth skull showed a large defect in its vault near the posterior half of the sagittal suture. A portion of the cranium near this orifice was depressed, and several fragments of bone, varying in size, were found in the portion of the brain corresponding to the defect. The right half of the cribriform

plate of the ethmoid bone was broken, together with a larger portion of the orbital roof on the same side. There was a separation of the orbital plate from the cribriform plate on the right side, and a portion of the former was slightly depressed. The fifth was a specimen of fracture of the squamous portion of the left temporal bone, with much comminution and extended fissuring. In each orbital roof was a small quadrangular depression, near the ethmoidal margin. Each depression was enclosed within a fissured fracture. In the sixth specimen there was a large hole in the left parietal bone, commencing about one inch and three quarters behind the coronal suture, and running backwards near the sagittal suture. Two large fragments of bone, corresponding to the posterior two-thirds of this hole, were depressed. Exophthalmos and ecchymosis of the lids had been observed on the left side just before the death of the patient. Both orbital plates were found to be fractured. On each side a portion of bone, surrounded by a fissure, had been depressed towards the orbit. In each of these specimens, the injury had evidently been caused by a grazing shot, and in three of these cases the force of the projectile had acted from before backwards, and away from the region of the orbit. The invariable displacement of the fragments of the broken roof downwards into the orbital cavity is in favour of Busch's theory. The occurrence of fracture by contrecoup of the thin bones on the anterior cranial fossa would explain the abnormal condition of the eyeballs and the surrounding soft parts, in association with gun-shot fracture of some remote part of the cranial vault. Retrobulbar extravasation and exophthalmos, associated probably with a lesion of some of the motor nerves of the eyeball, or even of the optic nerve, when presented in a case of gun-shot wound of the parietal or occipital portions of the cranium, will in future indicate fissuring by contrecoup of the roof of the orbit; as will also the anosmia, frequently noted in such injuries, be attributed to fracture of the horizontal plate of the ethmoid.

W. JOHNSON SMITH.

LEVINSTEIN ON MORPHINISM.

A MOST interesting paper on this subject, by Dr. Levinstein, appears in the *Berliner Klinische Wochenschrift*, February 9th, 1880. The author has had extensive practical experience of cases, and mentions the following symptoms as having been noted by him at different times, in addition to those common to chronic opium poisoning: inequality of the pupils and disturbances of accommodation of vision; irregularity of the heart's action; abnormalities of respiration; morbid appetite for hot condiments; polydipsia; increased spinal reflex irritability; tremor of the hands; albuminuria; impotence; amenorrhœa.

Three distinct forms of fever are described as being associated with, and dependent upon, morphinism. 1. The intermittent form, described by the author in 1876, presents the same clinical characters as malarial intermittent fever; it is occasionally tertian, but more frequently quotidian in character; the spleen becomes enlarged, exactly as in the ordinary form of the fever. 2. In the second form, the patients complain almost daily during the afternoon or evening of thirst and feverishness; the temperature is found to be somewhat raised; the condition lasts usually only a few hours daily, but may extend to half-a-day. 3.

The third form of morphia-fever has somewhat of a typhoid character; headache, singing in the ears, giddiness, apathy, and general malaise usually lead to the patient's taking to his bed, and he is unable to leave it again for from three to six weeks; the temperature seldom rises above 38.3 degs. Cent. (about 101 degs. Fahr.), and observation reveals a characteristic paresis of the heat-regulating apparatus.

All the above troubles cease upon the withdrawal of the morphia; most of them within a week, others in the course of about a month. The author pronounces unreservedly in favour of sudden and complete withdrawal of the drug, as compared with the gradual weaning process. The latter is a tedious mode of treatment, which often breaks down before it is completed; and, even when carried out, the troublesome symptoms due to abstinence are just as likely to supervene as in the sudden method.

It is, of course, undesirable to attempt to break off the habit in patients who are suffering from painful chronic incurable disease, and whose lives cannot last for long. But there is another class of cases of chronic painful disease, which may not prove fatal for years; in these it is most desirable to break off the morphia habit, for, by constant use, the drug has lost its anodyne and sleep-producing powers; if the habit can be cured, a means is restored to the patient whereby he can, when necessary, obtain sleep and relief from pain. These patients can seldom, however, bear to have the drug entirely withdrawn at once, so a 'modified method' has been devised for treating them. The morphia is completely withdrawn one evening; in twenty-four hours it is generally found necessary to give a thirtieth, fifteenth, or tenth part of the usual dose, to obtain for the patient a tolerable night; the next evening a less quantity (a fortieth to a fifteenth) is usually required; and so on, a less quantity being given each night until the minimum dose which appears to be necessary to the patient's comfort has been reached, or the patient may temporarily be able to do entirely without the drug. These small quantities of morphia are found to be sufficient to counteract the tendency to dangerous collapse, which is apt to follow its total withdrawal. The same method may often with advantage be pursued in nervous individuals and women; but the morphia can usually be entirely discontinued after two or three evenings. The author shows that, even a very short time after the withdrawal of the drug, a comparatively small dose of it is sufficient to counteract severe abstinence-symptoms; and a dose may prove fatal, which would, a few days before, have produced no narcotic effect whatever.

Persons who have been in the habit, for ten or fifteen years, of taking large doses (fifteen to thirty grains) of morphia, will not bear its withdrawal, although they may be in good mental and bodily health. After the withdrawal they, at first, gain appetite and sleep, and appear well. About six months later, however, appetite and sleep fail, emaciation sets in, and their general appearance becomes miserable. No physical illness is to be detected as the cause of this, and Dr. Levinstein at first suspected these patients of secretly taking morphia again. He has satisfied himself, however, that this was not the case, and recognising the fact that morphia has become, to these persons, a necessary of life, administers it to them again. Minute doses, given two or three times daily, and never increased, are found to be sufficient to restore appetite and sleep.

Of the author's 110 cases, 82 occurred in men, and

28 in women: this is not believed to indicate any special predisposition in the male sex, but to be connected rather with the different position held by man in the work of life. Thirty-two of the patients were medical men, eight were the wives of medical men, one a physician's son, thirteen other cases occurred among chemists, students, nurses, etc.; thus giving a total of fifty-four (almost half the total number of cases) occurring among those who have to do more or less with morphia in their every-day life. The next largest number of cases (eighteen) occurred among officers. Twelve men, out of the 110 cases, became habitual drinkers while suffering from morphinism. Of the 82 males, 61 were cases of relapse; of the 28 women, 10 were recidivists; and of the 32 physicians, 28 had relapsed.

The writer holds that relapses can be prevented, provided that, in addition to the patient possessing a powerful will, his age is not too advanced, that he has not been in the habit of taking large doses for a long continuance of years, and that his worldly circumstances will permit of his making certain necessary sacrifices; for instance, the apothecary must relinquish his business, and the medical practitioner must never again administer morphia subcutaneously. A discharged patient should be impressed with the fact that, though he is cured of his morphia-intoxication, he is not cured of his desire for morphia; that he will certainly, for a year at least, be subject to attacks of longing for the drug, at which times it is most desirable that he should place himself voluntarily under supervision. Above all things, he should not live alone, but, if single, with some trustworthy companion.

Dr. Levinstein has seen four deaths during morphinism; in three cases, the patients had been in the habit of constantly increasing their doses of morphia; each was found in bed in the morning with symptoms of acute morphia poisoning, from which he never rallied. The fourth case was that of a medical man, who tried to do without his morphia for a time; yielding again, however, the dose which he had been previously accustomed to take proved fatal after his temporary abstinence. The author discusses the question in its relation to insurance companies, and anticipates that, before long, some special regulations will have to be drawn up with reference to death due to, or accelerated by, morphinism.

C. S. W. COBBOLD, M.D.

BRACKETT ON THE SUBCUTANEOUS INJECTION OF CARBOLIC ACID IN ERYSIPELAS.

DR. JOHN E. BRACKETT, professor of Materia Medica and Therapeutics in the Howard University, writes in the *Therapeutic Gazette* for March 1880, that during the past year he has had frequent occasion, both in private and in hospital practice, to thoroughly test Professor Hüter's method of treating erysipelas by hypodermic injections of a solution of carbolic acid, and with the most satisfactory results.

That erysipelas is an infectious disease there can, Dr. Brackett thinks, be no further question; and that its etiology is due to an agent which is, in the broadest sense, ferment-like in its action, of great activity, short lived, but capable of rapid reproduction—in a word, bacteria of some form, possibly micrococci, seems to be a pretty well established fact. If such were not the case, the hypodermic injections of carbolic acid would not, necessarily, be of much

avail; but, accepting the ferment theory as the cause, and understanding that it is owing to its poisonous action on organised ferments that this carbolic acid either limits or prevents such processes of decomposition and fermentation as are due to their (the organisms) presence, a fair comprehension of its *modus operandi* in the following cases may be arrived at.

CASE I.—J. M., aged 43, of intemperate habits, had been drinking for several days, but was suffering at the time when Dr. Brackett was called to see him from a contusion of the thumb and index finger. He applied a solution of lead and opium to the injured parts, and ordered fifteen grains each of bromide of potassium and hydrate of chloral to be given at bedtime. On the following morning he observed an erysipelatous blush on the hand, wrist, and extending about midway up the forearm. He immediately prepared a solution of carbolic acid of the following strength. ℞ Carbolic acid, alcohol, of each 3ss.; distilled water, ʒij. Of this solution he injected five syringefuls in the hand and arm at points where the redness was most intense; the only medicine given internally was a repetition of the bromide and chloral at night, with the bromide alone morning and noon. On the second day the redness had wholly disappeared from the hand and arm, but had extended to the elbow, which was considerably swollen and of the colour peculiar to erysipelas. He then injected four syringefuls, at points equally distant, in the inflamed parts, and, as the nervousness and insomnia due to the excessive use of alcohol had considerably subsided, he stopped the chloral and gave the bromide only at night in thirty-grain doses. On the third day there was no further appearance of erysipelas, other than a slight induration about the wrist and elbow, nor did it reappear, so that on the fourth day my patient was well enough to visit his place of business.

CASE II.—Mrs. K., aged 65, had an ulcer of the leg, at which point the erysipelas appeared, and extended gradually upward in spite of large doses of tincture of iron and sulphate of quinine given internally, and local applications of nitrate of silver, tincture of iodine, poultices of various kinds, etc., prescribed by her attending physician. On the twelfth day after the attack the disease had reached the upper third of the thigh, at which time Dr. Brackett was called to see the case, and at once threw eight syringefuls of same solution of carbolic acid as given above into the tissues around the upper margin of the redness, which completely checked the further advance of the disease.

CASE III.—Mrs. J., aged 32, by occupation a washerwoman, when Dr. Brackett was called, was suffering great pain from an abrasion of the heel which resulted from a tight pair of shoes worn the previous day; the foot and ankle were somewhat swollen, hot and very painful, but there was no special amount of redness or other evidence to indicate erysipelas; he therefore ordered an application of solution of lead and opium, with rest and an elevated posture for the limb, a saline cathartic, and ten grains of Dover's powder at night. On the following morning he was again called, and found erysipelas of the foot, ankle, and leg, extending to near the knee. Ten syringefuls of carbolic solution were injected into various parts of the inflamed limb. No local application nor constitutional treatment was used. The next day he found the ankle and leg much better, but with some puffiness about the foot and knee; he therefore injected four

syringefuls in the foot and the same number around the knee. On the third day the redness and much of the swelling had subsided in the foot and knee, but the inflammation had extended upward to the middle third of the thigh; he therefore injected eight syringefuls of the solution around the upper margin of the redness, and four syringefuls into the inflamed tissues below. On visiting the patient on the fourth day, he found no use for his syringe, and on the fifth day she was walking about.

CASE IV.—J. G., aged 43, was admitted to hospital for a lacerated wound of the hand received in a scuffle with several drunken companions. He was very much intoxicated at the time of his admission, and subsequently suffered from a mild attack of delirium tremens; he had been a hard drinker for a number of years. Erysipelas first showed itself on the tenth day after his admission, and spread rapidly over the hand and forearm. On the morning following its appearance, Dr. Brackett injected six syringefuls of the carbolic acid solution into the hand and arm, and repeated the same number the day after, as there yet remained considerable redness and swelling. The third day the hand and forearm were better, but the inflammation extended to the arm, and was especially violent in the elbow, so that twelve syringefuls were injected. On the fourth day there was very little evidence of disturbance, and no further treatment was considered necessary; five days later it broke out again, and in a few hours had involved the whole arm to the shoulder. Dr. Brackett immediately injected six syringefuls around the upper margin, and twelve into the arm at various points. The following day there were several spots which looked very much as if a slough might form, and as near as could be determined about where the needle had been inserted the previous day. No more injections were used, and small sloughs did take place as had been expected, and were troublesome for several days; there was no return of the erysipelas.

There were three other cases in the hospital where the carbolic acid injected hypodermically proved quite as satisfactory as those already mentioned and with no unfavourable symptoms, while twenty-nine cases not under Dr. Brackett's own observation, but occurring in the hospital, ran the usual course of from ten days to two weeks; two of these died, three suffered from a second relapse, one from a third, and one resulted in a mild form of insanity; and these cases were all treated with iron and quinine, as well as various local applications. Of the two cases treated during this time by Dr. Brackett with iron, quinine, local applications, etc., one was able to leave the house only after the seventeenth day, while the other was still confined to her room, the attack having occurred a month before the date of this report.

That the treatment by subcutaneous injection of carbolic acid in erysipelas is vastly superior to any other yet attempted or introduced, Dr. Brackett thinks will be proved by the cases thus detailed; and he thinks that the usual plan of treatment by local applications and the internal administration of constitutional specifics, will be admitted by most surgeons to be a failure.

CARBOLIC ACID POISONING.

A SUFFICIENTLY large number of cases have now been collected to establish beyond doubt the toxic influence which carbolic acid, used antiseptically,

can at times exert. So long ago as 1875, Tardieu called attention to this important fact, and gave particulars of fifteen cases which up that date had come under the notice of either himself or other observers. Since then the number of recorded cases has so largely increased, that their consideration from a surgical point of view has become of the utmost importance.

Poisoning by carbolic acid applied externally may occur under two different forms. It may be sudden and without apparent cause, the patient sinking rapidly after the application of the dressings. Kuster of Berlin has related five such cases, in one of which, however, recovery eventually took place. He opines that many so-called cases of death from shock or collapse after operations are really due to neither more nor less than poisoning from the carbolic acid employed. The second form is the more insidious and the more common, and therefore possesses greater interest for the surgeon. In it the symptoms show themselves only after a certain interval of time has elapsed. A patient after operation will perhaps steadily improve for some days or weeks. He will then become restless, his temperature will rise three or four degrees above normal, symptoms apparently of incipient septicæmia will develop themselves, and will in all probability be met by a more vigorous employment of antiseptic methods. The condition of the patient, however, becomes daily worse. Nausea, loss of appetite, giddiness, clonic spasms, great prostration, with coma, and even death, may close, and indeed have already too often closed, the scene. In many of these cases, there is no room for doubt as to the cause. It has been shown many times that, where recovery has taken place, the improvement in the symptoms has coincided in the most marked manner with the cessation of the use of carbolised dressings. On the other hand, it has been noticed that the symptoms have always become aggravated shortly after the dressings have been applied. The temperature has risen, and the patient has become more restless and uncomfortable, just at the very time when an opposite result might fairly have been looked for.

The most reliable symptom of carbolic acid poisoning, and one which is present in the vast majority of cases, is found in the condition of the urine. According to Baumann (*Pflüger's Archiv*, Band xiii), we have in the reactions of this fluid a certain means of diagnosing not merely the fact, but the actual degree in which the intoxication is present. The urine often assumes a dusky hue, becoming almost black, and exhaling a peculiar odour, which is not, however, that of carbolic acid. The chemical tests are, however, more important and reliable than the physical appearances, which, indeed, may be at times absent. The most reliable test, and the one most readily applied, is that of Sonnenburg. It is founded on an estimation of the quantity of normal sulphates present in any given specimen. The sample of urine to be examined is first acidulated with strong acetic acid, and baric chloride is then added in excess. A copious precipitate, consisting mainly of baric sulphate, is at once formed if the urine be healthy. From the copiousness or otherwise of this precipitate, any albumen that may be present having first of all been separated, the degree of intoxication may be estimated. If acute or in an advanced stage, scarcely any precipitate will be deposited, the normal sulphates having undergone decomposition, and become soluble sulpho-carbolates.

As regards the treatment of carbolic acid poisoning, the first and most obvious step is to at once cease use of the acid. This in most cases will be sufficient to effect a cure, if the mischief have not advanced too far. It is, however, by no means necessary to leave off antiseptic treatment. It will be enough if some other disinfectant, such as salicylic acid or thymol be substituted for the one hitherto used. Strongly oxidising agents, such as potassic permanganate and calcic chlorate, would probably lessen the activity of the poison, but as a rule they are inadmissible as antidotes, from the effect they themselves exert on the mucous membrane of the stomach. The latest researches of Baumann in this direction give, however, some valuable results. He has succeeded in showing that sodic sulphate forms with carbolic acid, within the body, soluble and innocuous sulpho-carbolates. Hence Glauber's salt, or other soluble sulphate, would appear to be the direct chemical antidote to carbolic acid present by absorption or otherwise in the blood or tissues.

In the present state of knowledge on the subject, little more can be recommended than increased care in the use of what is undoubtedly a valuable and active medicament. It need scarcely be remarked that the chief danger of absorption exists in the case of large cavities, such as those remaining after the evacuation of ulcers, or where disinfectants have been injected into the larger joints, the pleura, or the uterus. It is probable that strong solutions of carbolic acid are less dangerous than weak ones, for, by coagulating at once the albumen of the tissues, they render further absorption impossible. Children and feeble persons are more susceptible to the toxic effects of the acid than those of a more robust type. The main point is to watch every case carefully, and on the slightest sign of any rise in temperature, or any increased restlessness and discomfort after the applications of the dressings, to have recourse to the barium test. It should not be forgotten that the mere quantity of acid used affords no criterion as to its probable effects. These will vary in each case with the age, the state of health, and the idiosyncrasy of each individual. LITTON FORBES.

ROSSBACH AND LANGENBUCH ON NEW METHODS OF REMOVING INTRA-LARYNGEAL GROWTHS.

TO the two well-known methods of removing laryngeal growths, viz., the intralaryngeal operation, in which the growth is removed by various forms of knives, forceps, etc., through the mouth with the aid of the laryngoscope, and the extralaryngeal operation, or thyrotomy, in which the thyroid cartilage is split in the middle line and the growth removed through the wound, Professor Rossbach, in the *Berliner Klinische Wochenschrift*, No. 5, 1880, adds a third. His operation is a subcutaneous one. Professor Rossbach states that it is easily and quickly performed, is almost painless, requiring no anæsthetic, is attended with the escape of only a drop or two of blood, and is quite devoid of danger; the wound, moreover, heals very rapidly, and requires no after-treatment. A small spear-pointed knife is introduced through the middle line of the thyroid cartilage, a little below the notch, and is pushed through the mucous membrane into the larynx. With the aid of the mirror the knife is then guided to the growth, and its pedicle or base cut through. After the first

prick in the skin, the patient experiences no further pain. He does not feel the entrance of the knife into the larynx, and its presence there causes neither coughing nor gulping. Should, however, any such spasmodic movements accidentally occur, the knife need not be withdrawn, but may be allowed to remain passively in the larynx, the handle being merely supported by the thumb and forefinger placed lightly on the thyroid cartilage, so that during the up and down movement of the larynx, the hand, knife, and cartilages move as one piece. With this precaution, wounding of the mucous membrane will be prevented. Professor Rossbach has operated by his method on two patients with entire success. He has also demonstrated, in a large number of experiments on animals, the ease with which the knife can be manipulated in the larynx when introduced subcutaneously. In this way, he states, he has removed in animals both vocal cords, and in one case has separated the whole of the mucous membrane from the interior of the larynx. Professor Rossbach was led to devise his operation, in consequence of having failed to remove a polypus from a patient who could neither tolerate the presence of instruments in the larynx when introduced in the intralaryngeal manner, even after months of practice, nor would submit to thyrotomy. The advantages of this operation in such cases he considers obvious. But he also thinks it preferable in a large number of cases usually treated in the intralaryngeal way, since it is more easily performed than the latter operation, and causes much less inconvenience to the patient.

In the same number of this journal, another operation for removing laryngeal growths is described, which, however, is only a modification of what is generally known as subhyoid pharyngotomy.

Dr. Carl Langenbuch, after administering an anæsthetic, makes a transverse incision through the skin between the hyoid bone and thyroid cartilage, separates the muscles from the hyoid bone, and cuts across the thyro-hyoid membrane immediately above the upper border of the thyroid cartilage, and then makes a median incision through the three-cornered portion of the membrane which lies in the notch of the thyroid cartilage, continuing this incision, as he says, perhaps unnecessarily, through the upper third of the thyroid cartilage. He next divides the root of the epiglottis, and exposes the interior of the larynx by drawing the thyroid cartilage downwards and forwards by means of strong hooks, so that the growth can be removed through the wound. The operation is attended with but very slight hæmorrhage. Dr. Langenbuch states that he has not found this operation described in the larger works on surgery; a similar method of opening the larynx was, however, employed by Professor Roser in 1851 when making some experiments upon animals.

W. J. WALSHAM.

BARTLEET ON NERVE-STRETCHING.

MR. BARTLEET, of Birmingham, in a communication to the April number of the *Birmingham Medical Review*, points out that the minor disorders of nerve-function are rarely associated with mortal disease, or, if so associated, are overlooked in the greater malady. The morbid conditions of a combined motor and sensory nerve are accompanied by very varying phenomena, and, as far as we know, there are no definite physical conditions, either of a nerve or a nerve-centre, which are with any degree of

certainly severally associated with the subjective or objective symptoms. Hence our treatment of them is, and must be, until we know more of the subject, in the main empirical.

The author refers to a case in which, after amputation of the thigh for injury, the patient suffered from very distressing and painful clonic spasm of the stump, and at last died absolutely worn out. After death, the part of the anterior crural nerve in contact with the brim of the pelvis was found red and apparently inflamed. Probably, it is suggested, some operation directly attacking the site of the nerve-irritation would, in this case, have not only increased the patient's comfort, but would even have saved his life. The excision of the painful neuromatous swellings occasionally found in stumps is, according to the author's experience, almost invariably followed by the recurrence of such growths, and by the return of the same distressing train of symptoms. It is believed that in cases of this kind good results are much more likely to be derived from an operation on the affected nerve in its continuity. Of the propriety of such an operation in tetanus, Mr. Bartleet is inclined to be doubtful, as, in this disease, at all events when traumatic, the local nerve-injury which commonly is found to exist, is very rapidly associated with the condition of so-called increased polarity of the nerve-centres. The result desired by operating upon a nerve in its continuity, is the abrogation, temporary or permanent, of this nerve as a carrier of motor or sensory impressions. This result has been attained in at least three ways: by nerve-stretching, by nerve-pinching, and lastly, by nerve-freezing. During the operation of nerve-stretching, the cellular and vascular connections of the nerve are freely severed. Any contused or thickened areolar tissue of the nerve, if such existed, would probably be altered in bulk or in shape, and the different contents of the nerve-fibres are compressed and displaced. The forcible pulling from above and below might also, it is thought, sever any small fibres of the nerve proceeding from it to neighbouring parts, especially if such fibres existed which, from disease, were either more rigid or softer than natural. In the operation of nerve-pinching, the vascular supply of the nerve and its nutrition would be but slightly interfered with, and the chief results of this proceeding would be displacement of the contents of the nerve-tubes and paralysis of its functions. Nerve-freezing is performed by exposing the nerve and freezing it with ether spray. In this operation the cellular and vascular connections of the nerve are undisturbed, as also the contents of the nerve-tubes. These contents, however, are frozen, and might become permanently injured.

Mr. Bartleet's personal experience applies only to nerve-stretching, and he prefers this to the other simpler and less severe operations, for this reason: that while we know little of the physical causes of the objective and subjective symptoms for which such operations are performed, and little also of what it is in the operation that does good, where relief has followed its use, it is well to perform an operation which, while more severe than some others proposed, is yet not dangerous to life or limb, and one which seems likely to affect the nutrition of the nerve more or less permanently.

Three cases are reported in which Mr. Bartleet performed the operation of nerve-stretching. An ill-nourished man was hurt in his work, and had to suffer amputation through the upper third of the arm. During the healing of the stump, and for

many months afterwards, this patient complained of severe pains in it. The stump became very tender and tremulous. No permanent benefit was obtained from change of air, tonics, or subcutaneous injections; and about two years after the amputation the man again came under the care of Mr. Bartleet, who found on examination under an anæsthetic, that the stump was a very good one, and free from cicatricial adhesions, but presented nodules, which were thought to be neuromata. An incision was made over the brachial artery, and four or five nerve-trunks were stretched. The wound healed satisfactorily, but the patient's condition remained unaltered. It was thought that some affected nerves had escaped being stretched, but there was also a strong suspicion of malingering. Another operation was afterwards performed, and three cords of the brachial plexus were well stretched. The wound had not healed at the date of the publication of this article, but according to the statement of the patient, the pain had left the stump.

The second case was that of a lad, aged 17, who had had his forearm amputated, and complained for the two years following the operation of severe pain and extreme tenderness, which prevented his wearing anything on the stump. At the outer angle of the stump, a neuroma was detected. An incision was made near to this, and a small nerve, probably the radial, was stretched. Unfortunately, the nerve gave way close to the neuroma. The pain was immediately relieved, and up to the date of publication, many months afterwards, had not recurred.

A forgesman, aged 31, had been treated unsuccessfully during many weeks for a pain in the middle of the back of the left thigh, which pain had come on suddenly without any known cause. Beyond the pain, which was very severe, and quite incapacitated the man for work, there were no objective or subjective symptoms. The patient was easy when lying in bed, but any exertion or motion of the limb caused much distress. An incision having been made with antiseptic precautions, the sciatic nerve was exposed, lifted from its bed, and then thoroughly stretched, being pulled forcibly from above and from below. The wound healed in five days. The man was kept in bed for ten days, and suffered no pain. This happy result continued after he had been permitted to get up; and the man when last seen, eighteen months after the operation, was quite well, and able with a good and strong leg to resume his laborious occupation.

Mr. Bartleet considers nerve-stretching peculiarly fitted for those irregular and peculiar cases in which, being ignorant of the cause, we may the more justly employ an operation of the mode of action of which we are also ignorant. He would certainly, he states, employ this operation in cases of tetanus in which there seemed to be a strong probability of some nerve being torn or irritated by a foreign body. He would also employ it for those intractable cases of neuralgia, such as some cases of sciatica, in which no other remedial treatment has proved of any use, and in which it would, he thinks, be quite justifiable to perform an operation not dangerous in itself, not likely to make the patient worse, and which might, perchance, relieve the sufferer of the burden of a life-long affection.

W. JOHNSON SMITH.

SPRENGEL ON INCOMPLETE LATERAL DISLOCATIONS AT THE ELBOW.

IN a contribution on incomplete lateral luxation at the elbow (*Centralblatt für Chirurgie*, No. 9, 1880), Dr. Otto Sprengel of Halle states that the frequent occurrence of this form of injury has never been fully recognised. In the majority of cases the luxation is not diagnosed, and consequently not reduced; and the subsequent treatment is often so unsuitable that the patient retains a more or less stiffened and, not unfrequently, a completely ankylosed joint. The bones of the fore-arm may be displaced either to the outer or to the inner side. In the former case, the greater sigmoid cavity surrounds the capitulum instead of the trochlea, and the head of the radius rotates freely in the position it occupies in luxation outwards. In partial luxation inwards the head of the radius is in contact with the trochlea, and the margin of the sigmoid cavity stands away from this articular surface. The internal condyle of the humerus is completely or almost completely covered by the olecranon, whilst there is abnormal prominence of the external condyle. In luxation outwards the most prominent sign is displacement of the head of the radius, the articular surface of which can be readily felt. On careful digital examination of the joint, a portion of the trochlea may be made out near the inner condyle. The diagnosis is not usually attended with difficulty, but when the patient is very young and the injured joint is much swollen and bruised, it will be necessary to make the examination under chloroform. Which of the two forms of partial luxation, the outer or the inner, occurs more frequently has not yet been determined. According to Hahn of Stuttgart, who was the first surgeon to direct attention to the frequent occurrence of partial lateral luxation at the elbow, the displacement of the bones of the fore-arm is almost always to the inner side. Of five specimens of lateral luxation, removed by resection of the elbow, in consequence of ankylosis, Hueter found in all that the displacement had been to the outer side. Volkmann found external displacement in all the seven cases of partial lateral luxation of the elbow that came under his notice in 1873. An interesting complication of partial luxation intervals was first described by Hueter, who in each of his five specimens found that the inner epicondyle had been broken off, and that it rested in the groove of the trochlea, so as to form a serious impediment to reduction. Dr. Sprengel reports two interesting cases from the clinique of Professor Volkmann; one a case of old luxation of the elbow inwards, with ankylosis of the joint, which was treated by resection; the other a case of luxation outwards, in which, owing to secondary perforation of the integument, the condition of the injured joint and the altered relations of the bones could be directly observed.

The patient in the first case was a man, aged 25, who seven months previously, when travelling in South Africa, far from surgical aid, had received a severe injury to the left elbow through the overturning of a waggon. After the gradual disappearance of a large swelling about the seat of injury, the joint became stiff, and the fore-arm quite useless. On his return to Europe there was found to be abnormal prominence of the external condyle of the humerus. The internal condyle was covered by the olecranon, and could not be felt. At the request of the patient, the ankylosed elbow was resected. Subsequent examination of the removed joint confirmed

the previous diagnosis of partial luxation inwards. The capitulum was apposed to the trochlea, and the ulna had been removed so far inwards that nearly half the sigmoid cavity remained free from contact with this articular surface. On this free portion of the sigmoid cavity, and connected with the articular cartilage by fibrous tissue, was a piece of bone detached from the epicondyle. Firm fibrous adhesions bound together the opposed surfaces of the humerus and the bones of the fore-arm. A girl, aged 7, received an injury to the elbow, which was diagnosed as fracture, and treated by the application of a gypsum bandage. On the removal of this bandage five weeks afterwards, a large opening was found in the integument, through which the inner condyle and a portion of the inferior articular cartilage of the humerus protruded. The head of the radius could be plainly felt below the external condyle, the ulna had been displaced outwards, and the outer half of the sigmoid cavity embraced the capitulum. The luxation was reduced under chloroform, six weeks from the date of the injury. Before the bones were replaced in their normal position, most of the injured joint could be exposed to view, through forcible abduction of the fore-arm, and still further protrusion of the inner condyle through the wound.

From 1873 to 1879, thirty-two cases of partial lateral luxation at the elbow were observed in the Halle surgical clinic. There can be no doubt, Dr. Sprengel states, that Hahn was quite right in his opinion that this form of injury is of very frequent occurrence, especially in childhood. In eighteen of the twenty-one cases recorded by Hahn the patients were children. Of the subjects of the thirty-two cases collected by Sprengel, four were adults and twenty-eight between the ages of two and sixteen years. The injury was an inward luxation in twenty, and an outward luxation in the remaining twelve cases. In fifteen cases the lesion was quite recent; in each of these the luxation was reduced, and almost always after the administration of chloroform.

The usual method of reduction consisted first in bending the fore-arm laterally, so as to increase the extent of the displacement. By next moving the limb to an opposite position, and through direct pressure on the joint, the luxation could be reduced in most instances without much difficulty. In one only of the seventeen cases of old luxation could the bones be replaced. This was an instance of luxation inwards of eight weeks' standing. In the remaining cases the main object of the treatment was the removal of the ankylosis, or at least an improvement in the condition of the joint. In two cases of old luxation inwards, in which reduction could not be effected, the functions of the injured joints were almost completely restored after a treatment consisting in forcible rupture of adhesions and passive movements of the limbs. In some of the remaining cases a fair extent of movement was thus attained, whilst in others the ankylosis was too complete to be relieved by any treatment short of resection of the joint.

W. JOHNSON SMITH.

GLANDERS.

IN a lecture published in the *Detroit Lancet* for April 1880, Dr. Alonzo Clark, of New York, thus speaks of glanders. There is a disease which is communicated to man from certain animals that deserves a passing notice, and that is glanders. It is generally taken from horses and by hostlers, or other

persons who are taking care of them when they have the glanders. Glanders is a disease that primarily affects the fauces and throat in animals—horses, mules, and asses. That it can be transmitted to man is only a modern observation. Sir Astley Cooper, in 1836, showed Dr. Clark the bust in wax of a man who had been an hostler, and had been poisoned from glanders and got a series of boils and abscesses, and finally died of them after several months. Sir Astley Cooper had a bust in wax made, and kept in the museum of Guy's Hospital. That was not the first case of glanders or farcy, however. The same form of disease had been referred to before. Elliotson, previously to this, believed he had found a case of glanders in man, but that was only two or three years before. Dr. Clark saw a case in the Hospital de Charité in Paris, in charge of Rayer, who wrote a book on diseases of the skin, some plates of which show an illustration of the eruption of the disease. This case excited great attention. The veterinary surgeons came in large numbers to see it, and physicians of every grade were interested in it. Dr. Clark visited it every day during the time of its continuance in the hospital. It was a subacute case, and lasted for three or four weeks.

The disease can be communicated to anybody who has a scratch upon his hand, while he allows them to be covered with the secretion of the glandered horse. A lady was crossing the street; a glandered horse, standing with his head very near her, blew his nose and she breathed in the spray that came from his nose, and she had glanders and died of it. It is not known that she had any abrasion of the skin of the nose; and it is to be presumed that the mucous membrane will receive this poison without abrasion, for one horse takes it from another. The horse takes it from the manger in which a glandered horse has been kept. The disease is known by two names, glanders and farcy. There is no difference, however, in the nature of the two affections, if they be indeed two. When the nose is the primary seat of the development, it is called glanders; when other parts of the body are first affected, it is called farcy. And in farcy the nose at length becomes affected very often, so that the two diseases run together.

Then, with reference to the nature of the poison, the material that produces it, the pus and other materials that are produced by the disordered action of farcy, will produce glanders in the horse or mule, or ass; and the secretion of glanders in man can do nothing more; so that by retro-inoculation it is pretty conclusively proved that the two are but modifications of one disease.

The history of glanders in man belongs to the present century, but the disease has undoubtedly existed as long a time as man and horses have been associated. But there is no distinct description of what could be called glanders in man until 1817. There was an intimation in 1812 from a German military surgeon that the glanders in horses might be transmitted to man, but he furnishes no proof of it, and the first person who described the disease in man did not know that it was glanders. It was Mr. Travers, who published a book in the early part of this century on *Constitutional Irritation*, and in illustration of this constitutional irritation, he cited two cases of glanders in man. He went on to say that he did not suppose that it was specific glanders, but simply an irritation that had been communicated to these persons by some poison from the horse. In 1830, Dr. Elliotson published a description of several

cases, and sent some of the material that he derived from their secretions to a person who inoculated an ass, and he had glanders. Dr. Elliotson seems to have been the first who fairly demonstrated the communicability of the disease from horses to man. In 1833 he published additional cases. They are to be found in the *Transactions of the College of Surgeons*. The cases of Drs. Elliotson, Travers, and Rayer, awoke the medical profession to the possibility of its communication.

The disease occurs for the most part in those who are engaged in taking care of horses, and it seems to come mostly from some cut or scratch upon the hand of the person who has occasion, as he thinks, to put his fingers or his hand into the nose of the horse. It is the nose of the horse that is chiefly affected, but the poison is communicated in a great variety of ways. The handkerchief may become poisoned with the secretions of the horse's nose, and be used by the hostler, or other person, to wipe his own nose—a very dangerous proceeding. The straw about the upper part of the stable, or the stall rather, in which the horse is confined, is apt to be covered with the secretion from the nose, and this may communicate the disease. It is the custom of some persons who have the care of horses to sleep under the manger in the midst of the straw that is defiled by the discharges from the horse's nose. Any person who allows the diseased secretions to touch him upon a point where there is an abrasion is liable to the disease. The period of incubation appears to vary from three to fifteen days. When a person has received this poison, if it is upon a scratch of his finger, there is apt to be a manifestation of exactly the same thing at first that occurs when the fingers are poisoned by dissection. There is a little sore, a little red spot that becomes elevated; an inflammation spreads around it, and follows the lymphatics up the arm and into the glands, and the glands swell, and so far there is the beginning of a dissection-wound. It is not long, however, before there are other manifestations that are more distinctive. If it has affected the nose there will immediately be little elevations, as large as a small pin's head, or as large as a large pin's head, that will be at first red and then whitish, and then they will spread, and in a little while each one will begin to discharge some pus. These little sores are frequently numerous, and by an ulcerative process that attends them they run together and make ulcers of considerable size, and these have the power frequently to penetrate to the cartilage and bones of the nose, to destroy the septum and to destroy the vomer, so that the nose at length falls in as it does sometimes in syphilis. The lymphatic glands all over the body have all become more or less swollen; there will appear numerous little hard kernels varying in size from the head of a pin to a pea, that will feel like shot for hardness. They have received a technical name from the farriers, farcy-buds, and these farcy-buds become ulcers. After they have maintained their hardness for a few days, a purulent matter forms in their centres, and they open and discharge this pus, and then each one extends into a cakey, hard ulceration. This may penetrate to a greater or less depth, and may do more or less mischief, depending upon the part of the body that they attack. They are mostly developed upon the face, upon the neck, and upon the abdomen. After that comes, if the patient lives, the series of abscesses that are formed sometimes in the deep part of the tissues, mostly in the lymphatics, and about the face and neck. M. Rayer's patient

had two abscesses, one just above the knee and one higher up; he had some on his buttock, and they were discharging fetid pus all the time. The mode in which the disease makes its invasion varies according to whether it is to be acute or chronic. The acute cases die generally before the end of a week, or, rather, before the end of a week and the end of two weeks. The acute cases are attended by a good deal of febrile movement; the chronic cases by a milder febrile movement, less constitutional disturbance at first, but it runs on to the same thing in the end. If it attacks the nose, a sore will form. The same kind of ulceration will go on in the mucous membrane of the nose, reaching to the bone and cartilage as before, but it will be at a later date. The abscesses that form will form in smaller numbers, and not invade the vitality so much. Persons may have farcy, or glanders, for eleven years. Sir Astley Cooper's case was of more than one year's duration, and occasionally a person gets well of it. The worst part of the disease is the wearing influence of these numerous abscesses and ulcers. It is remarkably an ulcerative disease, much more so than syphilis. The poison of the disease undoubtedly acts upon the general strength and produces weakness and exhaustion, but still more is done by the succession of ulcers and abscesses that the disease produces. These formations are not confined to the surface of the body. If they affect the nose they are apt to follow the breathing tube down, to occur in the fauces, in the trachea, or, rather, in the larynx first and then in the trachea, and to follow the breathing tubes down to the very lung-structure. In a considerable proportion of those who die, and in whom *post mortem* examination is made, it is found that the lungs are studded pretty thickly with what would, under other circumstances, be called multiple abscess, and which perhaps are so. They have not been described with such accuracy as to render it certain that they are not. Here is material for multiple abscesses; these putrid ulcers, and these putrid, offensive smelling abscesses are material enough for pyæmia. Indeed, Dr. Clark thinks that in the fatal cases the idea that the blood is poisoned by the septic principle that is in these ulcers and abscesses can scarcely be got rid of, and that, therefore, there are points of stasis produced in the lung that are anterior to inflammation, and then purulent collections form afterwards, exactly as in pyæmia, or rather septicæmia, in the lung; then, at *post mortem* examination will be found some hard resisting masses. Some that seem to be of about the same form are reduced to a purulent collection, and intermediate between them all the stages that would measure the progress of one to the other. Glanders is not in all cases a fatal affection. Some chronic cases are able to weather it through, and yet it has been known to follow a person eleven years, with abscesses and ulcers occurring occasionally. Most of those who have recovered from the disease recovered with impaired constitutions; they have not as good health afterwards as they had before.

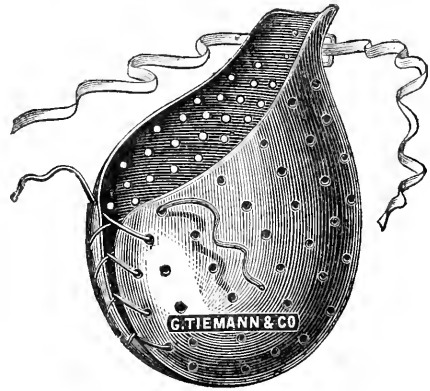
With reference to the treatment of glanders, very little is said by those who have been most familiar with the affection. Mr. Travers suggests nothing in the way of treatment for his two cases. Dr. Elliotson does very little with the treatment in his seven or eight cases. Dr. Clark advises that if the horse be known to be diseased with glanders, the hostler should at once take out his jack-knife, and cut off the flesh that has been exposed to the secretion. He has not time to wait for a surgeon, because absorption will take place quickly. Or he

should have some nitric acid in his pocket, and put a drop of it on to the cut as soon as he finds that he has anything upon a wounded part of his hand. One of the early cases that occurred was recognised by a country surgeon in England. The man was not an hostler, but he was the keeper of the hounds of an estate, and a horse died of glanders, and it was thought desirable to preserve the hide. The keeper of hounds removed the hide from this dead horse, and he cut his finger a little, but thought nothing about it. He went to get some hounds from Yorkshire to bring to the estate where he lived, and during his absence he became very sick, and came home weak, exhausted, and feverish, and a surgeon was called, and recognised at once, or at least supposed he did, that the man was sick with the poison that he had received from the glandered horse, and he told him (Mr. Gamgee has collected the facts of this case; it was not written, except from the memory of the man's wife, who was 86 years of age when she gave her testimony in regard to it) that if he had seen him at first he would have cut off his finger and saved him. Dr. Clark does not know that he could have saved him after time enough had elapsed to send for him, for it is probable the poison, by that time, would have been sufficiently in the system to produce the disease. He therefore does not think that cutting off the finger would be of any avail, unless it was done immediately after exposure to the disease. It is the same thing exactly with this as it is with hydrophobia. At one time, when a great many persons were bit by what they supposed to be mad dogs, Dupuytren kept for his own use, and that of his assistants, in a place arranged for it, hot irons; and persons who had been bitten by the mad dog, as they supposed, would come in, and he would apply his hot iron to the wound and kill the tissue for a considerable space around, and he was full of the faith that that prevented a great many cases of hydrophobia. Exactly the same principle would be applicable to the poison of glanders if it could be applied. But persons who are exposed do not know of their exposure very often until it is too late.

Dr. Clark recommends medical men who are called to a case of glanders, when abscesses begin to form, to empty the abscesses at once, and wash them out with a water that contains a proper amount of carbolic acid; to use an injection for the nose containing carbolic acid, of course in proper proportion, not so strong as to do mischief; to wash the ulcers many times a day with carbolic acid water, or with water containing the permanganate of potash. He thinks it probable that a marked mitigation might be made in the disease, and acute cases reduced to chronic ones at least. In the cases where medication has been tried, physicians have persuaded themselves that they did some good by the administration of arsenic. On this Dr. Clark remarks that he does not know that arsenic is a disinfectant, but it has remarkable power of preserving the tissues of the body when it is injected into the dead body. The great protection, however, is in cutting out or destroying the poison as soon as it has been applied to the wounded part. In a debilitating disease like glanders a very important part in its management is to induce the patient to receive wholesome and nourishing food, and for the debility he may be strengthened by some of the alcoholic stimulants.

A NEW METHOD OF TREATING ORCHITIS BY COMPRESSION.

DR. O. A. WHITE (*Boston Medical Journal*, vol. cii, No. 5, p. 99) says that the announcement of a new, safe, and painless method of instituting the desired amount of compression to effect resolution in engorged conditions of the testes should command favourable attention, not from sufferers alone, but also from surgeons whose speciality induces a large share of genito-urinary cases to apply to them for relief. The substitute which he has to propose, to carry out the above intention, will enable the surgeon to either moderate or intensify compression promptly and in accordance with his own sound views respecting the requirements in each particular case; and while it never fails to accomplish the desired purpose with celerity and adequate firmness, the salutary aim is effected within the bounds of patience and toleration. The instrument, as can be seen by reference to the subjoined woodcut, is shell-shaped, very light, and symmetrically moulded to receive and accommodate within its cavity a swollen testicle, surrounded by



its scrotal integuments. The material of which it is composed is hardened rubber, special care being taken by the manufacturer to render the walls as thin and light as possible. About one-third of the upper section of this shell is removed, leaving a preponderating portion of the base, which gives it the appearance of a scoop or dipper. The object of this configuration is of course apparent, and the peculiar shape selected has been found by experience to afford the best mechanical support to the pendulous organ. The cleft which runs down the front of the shield is intended to allow free overlapping of the two thin edges. By this means ample provision is made for all necessary reinforcement of compression which is to be practised during the management of a case.

In the fashioning of this splint, special care has been taken to have that portion which is intended to surround the neck of the tumour smoothly everted, in order to insure against concentrated pressure, which might otherwise take place about the vessels of the cord when the shield is continuously worn.

MEDICINE.

RECENT PAPERS.

1. DOWSE, T. S.—On Neurasthenia.
2. PHELPS, A. M.—The Treatment of Empyema by

Valvular Drainage. (*New York Medical Record*, April 3, 1880.)

3. RATTON, Surgeon-Major J. J. L.—On the Origin of Tetanus. (*Brain*, Jan. 1880.)

4. DUCKWORTH, DYCE.—On Rötheln. (*Lancet*, March 18, 1880, p. 390.)

5. POWER, H.—Trichinosis. (*British Medical Journal*, April 1880, p. 543.)

6. PAGE, F.—On Sudden Death from Spinal Apoplexy. (*Lancet*, March 1880, p. 445.)

7. ROGER.—On the Treatment of Hydatid Cysts of the Liver. (*Bulletin Général de Thérapeutique*, March 15, 1880.)

8. BAREGGI, C.—On a Case of Pneumonia, with Cerebral Shock. (*Gazzetta degli Ospitali*, No. 5.)

1. *Dowse on Neurasthenia*.—Dr. Stretch Dowse recently read a paper at the Medical Society of London, on neurasthenia of the brain and spinal cord. He stated that Dr. Beard of New York was the first physician who drew the especial attention of the profession to the sign and symptoms of this disease, and that Erb, in Ziemssen's *Cyclopadia of Medicine*, vol. xiii, had devoted a special chapter to what he called neurasthenia of the spinal cord. Dr. Dowse remarked that for many years he discarded the term neurasthenia, for the reason that when he was in the midst of pathological work he thought that the term was vague and unscientific, and he expected that the scalpel and the microscope would reveal the cause of any arrest of nervous function; but he had grown wiser in this respect, and he now thought that the term neurasthenia was applicable to a large number of nervous derangements. Sleep was due to nervous exhaustion, consequent upon an arrest of function in the hemispheres of the brain, and during this temporary arrest of function the trophic or nutritive elements of the brain were still actively employed, and the cells of the brain were being recharged with nutritive pabulum in the form of bioplasin. In the consideration of the asthenic or exhausted state of the nervous system, we had to find out whether the arrest of nervous energy was vital and general, or whether it was local and circumscribed. And the former condition was seen and illustrated during the course of many acute diseases, but in none so vividly as in diphtheria, where the patient, as a rule, died from exhaustion of the nervous centres, which gave motor power to the walls of the heart. Dr. Dowse said that in the inorganic world, matter and energy were indissolubly associated; that we knew of matter only through the transformation of energy, and that we recognized energy only through its affections of matter; that matter and energy were more or less strongly united according to their power of resistance, and so it was in the organic world. Life and vitality were, according to Sir W. Gull, a correlation of energies or forces. Dr. Dowse stated that the brain, and consequently every individual cell of which the brain was composed, was a factor as well as a nidus for the conservation of energy. Molecular displacement in the nerve-centres meant the exercise of disruptive energy, which led to a failure in the power of resistance, a diminution of vitality, a lowering of tension, a decrease of tone, and an exhaustion of the nervous system; in fact, an arrest of function and molecular inertia. He said that the energy or force with which a nerve cell is specially endowed may be divided into three parts; first, the active or floating or automatic energy; second, the complementary energy; and

third, the residual or latent energy. He had little doubt that most functional troubles of the nervous system were due to the want of an equable development of stable energy, which resulted from abnormal molecular interchange, inducing defective correlative integrity of certain individual cells or groups of cells. Dr. Bence Jones held the view that death consisted in the stoppage of the conversion of latent force into active force caused by some arrest of action in the heart, lungs, or brain. Heat and energy are the result of molecular motion; vitality is co-existent and absolutely dependent upon motion. The energy dependent upon either physical or vital motion becomes expended and finally exhausted; and the great problem which practitioners of medicine had to solve was 'In what manner can we best determine that amount of conservative energy in our bodies, which shall render the supply of nerve force equivalent to the demand?' Man's power of health, or, in other words, his resisting power to overcome the exhausting influences which surround him in almost every sphere of life, is due and in proportion to the inherent power possessed by his nervous centres to conserve those forces which correlatively made up his vitality. Dr. Dowse then went on to the consideration of the differential diagnosis between neurasthenia of the nervous system, which for years remained a mere functional affection, and neurasthenia which were due to intractable arrest of development in the nerve cells, and which led on to defective nutrition of the nervous centres, and ultimately to organic disease; such, for instance, as were found to be associated with some form of mental derangement, and with many forms of paralysis. He stated it to be his firm belief that many of the incurable cases of insanity, locomotor ataxy, progressive muscular atrophy, and many other diseases of the brain and nervous system commenced as a neurasthenia of the nervous centres, and when in this state, such conditions were quite amenable to treatment. Dr. Dowse then reviewed the signs and symptoms, bodily and mental, of an exhaustion of the brain and spinal cord, drawing attention to the effects produced by overwork and worry, and he lastly considered the treatment of this disease. In this question he quite agreed with Dr. Beard, that there was no routine plan for treatment in these cases. Each case must be studied closely and carefully by itself. Iron and quinine were much less valuable than other drugs, such as arsenic, phosphorus and strychnine. Dr. Dowse was not in agreement with many observers concerning the value of either galvanism or faradisation; for in his hands, although it never failed to give great relief during its application, and it may be for some hours after, yet the good effects soon wore off and left the patient no better than before its application. He said that the drug upon which he chiefly relied was opium—the pure watery extract of opium—in doses of a quarter of a grain three or four times a day. In certain cases it acted like a charm; it excited and stimulated for a short time the brain-cells, and then left them in a state of tranquility which was best adapted to their nutrition and repair. He concluded his paper by referring to the benefit of proper feeding, and the judicious use of stimulants, travel, and rest.

2. *Phelps on the Treatment of Emphysema by Valvular Drainage*.—In the *New York Medical Record* for April 3, Dr. A. M. Phelps describes a method of treating emphysema which he has found successful. He makes two openings, one low down upon the

diaphragm in front, the other between the ninth and tenth ribs in the back, as recommended by Bowditch; and he takes the greatest possible advantage of the pneumatic pressure, by allowing no air whatever to enter from the outside during the whole time of treatment. To accomplish this, he introduces into the posterior opening, by means of a trocar, a tube, made of silver, of two sizes, according to the age of the patient, and fenestrated at its extremity. Before penetrating the chest-wall, the trocar is made to pass through an India-rubber plate, which is applied to the outside of the chest, prevents air from entering around the tube, and, being held in place by adhesive straps, keeps the tube in position. The tube has a valve, opening outwards, which is prevented from opening too far by a hook at the extremity of the tube. A small India-rubber bag envelops the extremity of the tube and serves as a receptacle for the pus. This bag is easily cleansed by means of a stop-cock in its lower extremity. If the discharge be very profuse, the pus may be drained through the sac into a bottle carried in the inside lining of the vest. This tube should be introduced last; and, as pus escapes, the same quantity of water should enter through the exterior tube. By this procedure the cavity will be more thoroughly washed, and no air will enter it. The point should be the ninth interspace in the back. The anterior tube is introduced low enough to rest upon the diaphragm, and thus avoid the pressure upon it by the expanding lung. The point selected should be upon a line drawn downward about one and a half inches external to the nipple upon the right side, in the sixth interspace if possible, and two inches external to the nipple in the sixth interspace upon the left side; taking care not to wound the liver, pericardium, or diaphragm. If, upon hypodermic exploration, pus be drawn off at the points designated, a large trocar and cannula should be plunged into the pleural cavity in front, and, while the pus is escaping, a soft India-rubber tube, six inches in length, is passed through the cannula, penetrating the pleural cavity one inch, when the cannula is removed. The tube should now be plugged, to arrest the further escape of pus. With a needle, a thread is passed through the rubber tube close to the chest-wall, and made fast to the chest by means of adhesive straps. When both tubes are introduced, carbolic water may be introduced through the anterior one by means of a funnel, and the cavity can be thoroughly washed without the danger of any air entering, and with the advantage of draining from the lowermost parts of the suppurating sac. This process should be kept up till the cavity is thoroughly cleansed, indicated by the water escaping unchanged. After the cavity is perfectly cleansed, the long rubber tube and funnel is removed, and the anterior tube is plugged with a piece of wood. The valve of the drainage-tube is now dropped to its place and made fast by the hook, and the India-rubber bag is placed over the end of the drainage-tube, and the lower end made fast to the chest by strips of adhesive plaster. This bag can be removed, cleansed, and disinfected as often as the occasion may require. If the lung is incapable of rapid expansion, before dropping the valve to its place, and attaching the rubber bag, all the fluid may be allowed to escape from the pleural cavity and air to enter it, as it will not give the patient so much distress as the weight of the fluid upon the diaphragm; then the patient is laid in a position so that the drainage-tube will be at the highest point, to facilitate the air rising

to it, the valve is dropped to its place, and the patient directed to make a few forced expiratory efforts, when the excess of air will rush out of the cavity, and, the valve preventing its entrance upon inspiration, pneumatic pressure is increased by the calibre of the pleural cavity being diminished, and the lung, if it be capable of expansion, will do so rapidly. The patient should lie upon his back during the washing. The adhesive straps should be so adjusted as to prevent all pulling upon the drainage-tube. The washing should be repeated as often as the temperature rises from the accumulation of pus. The valve and tube and rubber plate should be kept carefully cleaned as often as it becomes unclean, and the valve kept in a good working condition. If the tube should be too long it can be removed, and with an ordinary file and pair of shears cut to the desired length. It should lie tight against the rubber plate to prevent articles of clothing from coming into contact with it, and should penetrate the pleural cavity about half an inch, thus avoiding the irritating effect of a long drainage-tube, which is unnecessary. The piece cut from the tube should be put upon the trocar; this will keep the point of the trocar at its proper place, otherwise it would be too long for the tube. Flakes of fibrin obstructing the drainage-tube at any time should be moved aside with a stilet or a perforated catheter. If the anterior tube becomes obstructed by the lung expanding down upon it, a small catheter can be passed through the valved drainage-tube to the anterior chest-wall and the rubber tube and funnel attached to it. By this means a current of water is conducted to the front, and the cavity is perfectly cleansed by allowing it to escape through the valved drainage-tube. Dr. Phelps uses either carbolic water, 1 part to 80; Condy's fluid; or a solution of a drachm of salicylic acid in 4 ounces of alcohol and 28 ounces of water. The cure is effected by the pleura coming into contact and uniting, this obliterating the pus-secreting cavity. Washing should be suspended when the discharge ceases to be fetid, and the pus healthy. When the lung is incapable of expansion—ceases to expand, or has fully expanded—the whole side of the chest should be surrounded with strips of adhesive plaster laid on in the direction of the intercostal muscles, crossing each other, and several layers in thickness. This will keep the side at rest, and favour union of the pleural surfaces.

3. *Ratton on the Origin of Tetanus.*—The author enunciates the proposition (*Brain*, January 1880) that tetanus is a single disease; that it begins in persistent peripheral nerve-irritation, and ends in organic molecular and functional disturbance of the medulla. The peripheral nerve-irritation may or may not be traumatic, but is invariably the cause of the disease; so that the term idiopathic tetanus should be disused. The above conclusion is arrived at after exhaustive arguments have been adduced in proof of the five following points. 1. Peripheral nerve-irritation is a cause of tetanus. 2. Peripheral nerve-irritation is present in all cases of the disease. 3. It produces eventually the group of symptoms known as tetanus. 4. It explains the facts of the morbid anatomy of the disease. 5. It guides the treatment of the disease, and is proved by its success. The great bulk of cases of so-called idiopathic tetanus, are either puerperal, menstrual, or the result of worms. That case of idiopathic tetanus in which peripheral nerve-irritation could be excluded as the cause, must be absolutely free from disease; the author cannot

imagine that such a case ever existed. His view of the pathology of tetanus is that in the first stage of the disease (that of continued nerve-irritation reacting upon the medulla and originating tonic spasms) up to a certain point there is no morbid change in the cord, and consequently there would be no evidence of disease. At this period division of the afferent nerve, by cutting off the source of irritation, arrests the symptoms. Afterwards, continued irritation, exciting the reflex function to an inordinate degree, causes hyperæmia with molecular changes, and frequently inflammation. Here there may or may not be visible change, but these will be hidden by molecular changes. Pathological facts fit in exactly with these views. Sometimes no changes are found, sometimes microscopical changes, and sometimes evidences of inflammation of the medulla and upper part of the cord. The treatment by amputation, or section of the afferent nerve, is only efficient up to a certain point; when molecular changes have taken place in the medulla, it is useless. Division of the nerve in the second stage may help, but does not cure the disease. Something more is wanted—some powerful wrench to the nervous system that will alter the morbid molecular arrangement of the parts, or act as a revulsive or counter-irritant. Stretching a large nerve-trunk (e.g., the sciatic), and making traction on the cord, have been tried and followed by marked success. The drugs used, and which have justified their use in this disease, are just those which are known to diminish the reflex irritability of the cord. The ice-bag to the spine, leeches, blisters and plasters, to the same, all testify to the universal opinion acted upon, if not avowed, that tetanus is a disturbance-disease of the reflex function of the cord.

C. S. W. COBOLD, M.D.

4. *Duckworth on Rôtheln*.—Dr. Dyce Duckworth, in the *Lancet*, March 1880, p. 395, carefully reports a case of this now frequent exanthem, giving, *in limine*, a detailed history of all that is told us of the disease by different observers. A specially noteworthy point is insisted upon, viz.: the tendency to enlargement of the lymphatic glands about the jaw and neck, a symptom which few writers have noticed.

5. *Power on Trichinosis on board the School-ship Cornwall*.—In the *British Medical Journal*, April 1880, p. 523, is a summary of the results of Mr. Power's investigation into an outbreak of so-called 'continued fever' among the boys of the ship *Cornwall*, during which forty-three boys were attacked, eighteen seriously, one of whom died; the others suffered slightly. The body of the deceased lad was exhumed, and it was proved that he had died from trichinosis. An editorial comment in the *Medical Times and Gazette*, April 1880, p. 374, thus concludes: 'We cannot think Mr. Power is justified in calling this outbreak one that "proved to be trichinosis"; for we hold that there is no shadow of proof to this effect. The mere finding of trichinæ in one dead body may furnish a basis of supposition, but is proof of nothing beyond their discovery.'

6. *Page on Sudden Death from Spinal Apoplexy*.—Dr. Frederick Page (*Lancet*, March 1880, p. 445) gives the necropsy of a delicate girl, 9 years and 11 months old, who had been ailing for five or six days previous to her death. The history was imperfect; but it appeared she was subject to occasional attacks of indisposition, lasting several days. During these attacks she complained of stiffness of the neck, of pain, sometimes very severe, along the upper part of the spine, and she kept her left arm quiet because pain was felt on moving it. She was prostrate, and

alternately hot and cold. On a Saturday she was in her usual health; on Sunday she was ailing; on Monday she was confined to the house, complaining of stiffness and pain in neck and left shoulder; on Tuesday much the same; on Thursday she seemed better in the morning, but at four o'clock, p.m., just after the bowels had acted, she died suddenly. On examination, the lower cervical region of the cord was infiltrated with blood, and on section a clot, about the size of a horse-bean, escaped. R. NEALE, M.D.

7. *Roger on the Treatment of Hydatid Cysts of the Liver*.—Dr. Roger, of Havre (*Bulletin Général de Thérapeutique*, March 30 and April 15, 1880), narrates a case of hydatid cyst of the liver, which he treated successfully by direct puncture, with a large-sized trocar. This patient was a woman aged 37, and had suffered from the affection for more than five years. The symptoms were emaciation, anorexia, serous diarrhoea, vomiting, and a peculiar earthy complexion. Jaundice had been present, but only in a very slight degree. The right hypochondriac region was occupied by a distinct swelling, which imparted a sense of fluctuation. The diagnosis was held to lie between hypertrophy of the gall-bladder, cancer, and a serous or hydatid cyst. As the state of the patient rendered operative interference urgently necessary, a puncture with a large-sized trocar was made, and a litre and a half of purulent fluid drawn off, which, on examination under the microscope, gave the characteristic appearance of hydatids. The author accompanies his narrative of this case by a carefully written clinical commentary. He examines in succession the various methods of opening hydatid cysts of the liver, viz., by caustic, by capillary puncture, and by immediate puncture with a large trocar; and, on various grounds, prefers the last. All purely medical treatment he holds to be at least useless in such cases, and in some it may be a dangerous waste of time. The method of opening the cyst by caustics he condemns as painful, and often inefficacious. Aspiration is always valuable as a diagnostic measure; as a method of treatment, however, it is not to be relied on, as it frequently fails either to evacuate the fluid or to prevent recurrence. When the diagnosis has been clearly established, no procedure is so satisfactory as puncture with a large trocar, the cannula being left in the wound, and daily injections of some antiseptic fluid made through it. As regards serous cysts of the liver, the author thinks that in the present state of knowledge a differential diagnosis between such and hydatids is impossible, without preliminary puncture; he is inclined to attribute many of the cures of so-called hydatid cysts, by capillary puncture, to the fact that such cysts were, in reality, collections of serous fluid, containing no echinococci whatever.

8. *Bareggi on a Case of Pneumonia, with Cerebral Shock*.—Dr. C. Bareggi (*Gazzetta degli Ospitali*, No. 5) gives the history and *post mortem* appearances of a case in which a patient, suffering from pneumonia in its first stage, precipitated himself from a balcony, thereby inducing concussion of the brain, and death within eighteen days. Examination of the encephalon after death showed that there had been no fracture of the skull, nor rupture of the dura mater. The superior portion of both cerebral peduncles was extensively softened; the left lateral sinus contained a fibrous coagulum, but the superficies of both hemispheres were apparently normal, both as regards colour and consistence. In the medullary substance of the right posterior lobe of the cerebrum, there were numerous spots of capillary hæmorrhage, to-

gether with similar but more sparsely occurring foci in the left hemisphere of the cerebellum, between its external layers and the corpus rhomboideum. The corpus callosum in its totality, the septum lucidum, and the grey commissural substance of the optic thalami were softened, and 'literally riddled' with hæmorrhagic foci. The corpora quadrigemina and the floor of the fourth ventricle had also shared in the softening process. Many puncta cruenta existed in the left corpus striatum, the cerebellar peduncles, and the bulb. The two latter of these were of normal consistency. The right lung was in a state of red hepatisation, merging into grey at the apex. In commenting on the above appearances, the author remarks that, during the time which elapsed between the date of the injury and the patient's death, three symptoms were peculiarly conspicuous, viz., loss of consciousness and voluntary movement, epileptiform convulsions, best marked on the right side, and hyperæmia of the skin, with generalised high temperature and profuse diaphoresis. The first of these he considers satisfactorily accounted for by the lesions found in the cerebral peduncles, which were sufficient to destroy all power of conduction; the second, after considering various hypotheses and possibilities, he thinks to be best explained by the hæmorrhages found in the medullary substance of the left hemisphere of the cerebellum, which must have been potent causes of irritation to the nerve-tubules immediately around them. In the absence of any apparent lesion of the sympathetic system, the third symptom was probably due to commotion of the vaso-motor centres. These the author locates on the floor of the fourth ventricle, four or five millimètres from the tubercula quadrigemina, in the protuberance, and in the cerebellum; parts which indirectly shared in the injury, and were actually found after death to be more or less congested. As regards the deeper-seated injuries and changes observed, such as the capillary hæmorrhages, etc., when not the direct consequences of the mechanical shock, as no doubt they were in the left corpus striatum and left hemisphere, the author considers them due to the violent passage of a wave of cerebro-spinal fluid through the channels of communication which exist between the various portions of the encephalon.

LITTON FORBES.

THERAPEUTICS AND PHARMACOLOGY.

RECENT PAPERS.

1. LEVIS, R. J.—Bromide of Ethyl. (*Philadelphia Medical Times*, January 17.)
2. LEMOS.—A New Anthelmintic. (*Medicinische Neuigkeiten*, No. 34, 1879.)
3. JOHNSON, J. G.—On a Preparation of Ergot. (*Deut. Lancet*, March 1880.)
4. RISLEY, S. R.—The Relative Value of Sulphates of Atropia and of Duboisia. (*American Journal of the Medical Sciences*, April 1880.)
5. ZIELEWICZ, J.—The Therapeutic Value of Salicylate of Sodium in the Intermittent Fever of Children. (*Deutsche Medicin. Wochenschrift*, No. 41, 1879.)
6. PAULI.—The Passage of Salicylic Acid into the Milk of Lying-in Women. (*Inaugural Dissertation*, Berlin, 1879.)
7. CIARAMELLI, C.—On Hypodermic Injection of Pilocarpine. (*Giornale Internazionale delle Scienze Mediche*, nuovo serie, Anno I, Fasc. x, xi.)

8. VIFORCOS, RODRIGUEZ.—Salicylate of Lime in Syphilitic Ulcers. (*El Siglo Medico*, March 1880.)
9. GATTI, PETERSEN, and others.—On the Toxic Action of Salicylate of Soda. (*Gazzetta degli Ospitali*, No. 4, Feb. 29, 1880.)
10. GATTI, FRANCESCO.—On a Case of Complete Amaurosis from the Use of Salicylate of Soda. (*Ibid.*)
11. DA SILVA ARAUJO.—The Treatment of Elephantiasis Arabum by Electricity. (Reprint from *Gazeta Medica da Bahia*, Oct. 10, 1879.)
12. BOURGEOIS.—On the Therapeutic Uses of Permanganate of Potash, with particular reference to Bleennorrhagia. (*Ibid.*, March 15, 1880.)
13. MAUREL.—On the Disinfection of Typhoid Fever Stools by Charcoal. (*Bulletin Général de Thérapeutique*, March 30, 1880, p. 279.)
14. MARCACCI, GIORGIO.—On the Alcoholic Solution of Marine Glue in the Treatment of Certain Forms of Skin-Disease. (*Ibid.*)
15. LUCAS, JOHN C.—On the Cure of Tetanus by Smoking Indian Hemp. (*Medical Times and Gazette*, Feb. 1880, p. 202.)
16. HEWAN, ARCHIBALD.—On Salicylate of Quinine. (*Lancet*, April 1880, p. 540.)
17. RANKING, G. S.—On Arsenic in Uterine Hæmorrhage. (*Practitioner*, Feb. 1880, p. 99.)
18. NEALE, R.—On Quinine as an Ecboic. (*Practitioner*, March 1880.)
19. GRAY, G.—On Recovery from taking Twenty-two Grains of Strychnine, by the Use of Chloral. (*British Medical Journal*, March 1880.)
20. MELDON, AUSTIN.—On Intravenous Injection of Milk. (*Lancet*, Jan. 1880.)
21. COTTE, WYNDHAM.—On Salicylic Acid in Ringworm. (*Lancet*, March 1880, p. 483.)
22. ROBSON, A. W. MAYO.—On the Uses of Nitro-Glycerine. (*British Medical Journal*, April 1880, p. 556.)

1. *Levis on Bromide of Ethyl.*—Dr. R. J. Levis writes a paper on this agent in the *Philadelphia Medical Times*, January 17, 1880. He reports favourably of it as an anæsthetic. Since April 1879, he has given practical attention to the administration of this substance, and he has had sufficient experience upon which to base some decided impressions of its value. Its chief characteristics are the rapidity of its action, and the quickness of recovery from its effects. He finds it does not influence the circulation, except by producing slight increase in the rapidity of the heart's action and arterial pressure. Respiration is but little influenced. Nausea and vomiting occur less frequently than with ether and chloroform, the odour of the vapour is less agreeable than that of chloroform, and it remains for a long time on the breath of the patient, but seems to be quickly dissipated from the apartment. The vapour is unirritating. General excitement or struggling is less frequent, and anæsthesia is accomplished in one-third of the usual time of giving ether or chloroform. The recovery is comparatively rapid, and in the greater number of cases does not exceed two minutes. His method of administering it is by pouring two drachms on a napkin, folded to a square of four inches, pinning this inside a napkin large enough to cover the face. [The reporter has made a fair trial of samples of bromide of ethyl, obtained from two chemists of high repute in London, but found it a less satisfactory anæsthetic than dichloride of ethidene. It produced anæsthesia rapidly, and the recovery of consciousness was rapid; but headache, giddiness, and nausea, were frequently complained of. The patient had a drunken look which contrasted unfavourably with the effects of ethidene.—*Rep.*]

J. T. CLOVER.

2. *Lemos on a New Anthelmintic.*—Dr. Lemos, in

Medicinische Neuigkeiten, No. 34, 1879, and the *Therapeutic Gazette*, March 1880, states that the *ocinum basilicum*, a plant known in Buenos Ayres under the name 'albochaca', has an action of such a nature that the worms in every stage of development rapidly leave their location after the juice reaches them. Its use is so much the more to be recommended since, if no worms should be present, no injurious effect results from the plant, but a laxative and disinfectant action is the only result. Fifty grammes of the juice are given, followed in two hours by a dose of castor-oil. A free discharge of the worms may be expected.

3. *Johnson on a Preparation of Ergot*.—At a recent meeting of the Detroit Academy of Medicine (*Detroit Lancet*, March 1880), Dr. J. G. Johnson exhibited a preparation of ergot, made under his direction by Mr. Cooper, druggist. It was prepared by digesting and extracting the ordinary commercial ergotine with the strongest alcohol (95 per cent.) The product was of deep claret colour, with but little taste or smell; in fact, there was none of the nauseous odour of the crude drug. It contained sufficient of the active principle of ergot to make it a decidedly efficient remedy in nervous diseases. The residue was a black mass, tough and consistent as gutta-percha. Dr. Johnson had been in the habit several years of frequently using ergot among the insane, and considered it one of the most valuable medicines in the treatment of some forms of nervous disease. The only trouble in his experience was that patients very soon became disgusted with the remedy, and refused to take it. He had used the 'concentrated tincture' for over six months, and had heard no complaint as to taste or smell. In reply to Dr. Cleland as to its efficacy in cases of labour, Dr. Johnson said he had not as yet had an opportunity of trying it, but in a case of chronic spinal meningitis, in which there also existed a fibroid tumour of the uterus, this tincture produced such violent uterine cramps that its use had to be abandoned. The strength of the preparation was about twice that of the old extracts on the market, and the dose was correspondingly less.

4. *Risley on the Relative Value of Sulphates of Atropia and of Duboisia*.—Dr. S. R. Risley, Lecturer on Ophthalmoscopy in the University of Pennsylvania, sums up an article on this subject in the *American Journal of Medical Sciences* for April, as follows. 1. In solutions not stronger than two grains to the ounce, duboisia-sulphate is free from danger. 2. The two-grain solution of duboisia-sulphate more rapidly paralyses the ciliary muscle than a four-grain solution of atropia-sulphate. 3. The duration of its effect is less than half that of atropia-sulphate. 4. The preparations now in the market are more liable to irritate the conjunctiva than neutral solutions of the sulphate of atropia. 5. In the treatment of inflammations of the eye, duboisia is quite as useful as atropia, and may, therefore, be used as a substitute.

5. *Zielewicz on the Therapeutic Value of Salicylate of Sodium in the Intermittent Fever of Children*.—Dr. J. Zielewicz, in the *Deutsche Med. Wochenschrift*, No. 41, 1879, reports 207 cases of intermittent fever treated successfully with large doses of salicylate of sodium given during the febrile period. As regards certainty and rapidity of action, however, it is inferior to quinine. To children under one year an average amount of 3.5 grammes (with a range of 3 to 8 grammes) was administered; to children of 1 to 4 years, 5 to 6 grammes were given; and to

children of 10 years, 8 to 10 grammes. The treatment is less expensive than that by quinine.

6. *Pauli on the Passage of Salicylic Acid into the Milk of Lying-in Women*.—Dr. Pauli (*Inaugural Dissertation*, Berlin, 1879) has shown by a series of careful experiments that salicylic acid passes both into the milk of lying-in women and the urine of new-born infants. The milk, freed from fat, was treated with ether; the residue was evaporated and dissolved in water, and tested with a 5 per cent. solution of chloride of iron. Little or no reaction was observed after the administration of 2 grammes (31 grains) of salicylic acid, or 5 grammes of the salicylate of soda. After twenty-four hours, if a sufficient quantity had been given, the reaction was always evident; it had disappeared at the end of thirty-six hours. Quantitative analysis showed that, when from 4 to 8 grammes of salicylic acid was administered, from 75 milligrammes to 15 centigrammes were eliminated by the milk in the course of twenty-four hours. The urine of the newly born infants was extracted with ether, and the residue treated as above described. When the mother had taken 2 or 3 grammes of salicylic acid, the reaction was distinct and intense. The acid was much more easily detected in the urine than in the milk. The experiments also showed, that the salicylic acid in the urine does not bear a regular proportion to the amount taken, but that small quantities are probably eliminated by other ways, such as the saliva.

7. *Ciaramelli on Hypodermic Injection of Pilocarpine*.—Dr. Ciaramelli (*Giornale Internat. delle Scienze Mediche*, Anno 1, Fasc x, xi) contributes a carefully written paper on the therapeutic and physiological action of jaborandi and its alkaloid, as observed in his own practice. He has frequently administered the drug in cases of recent and large pleuritic effusions, but could never altogether satisfy himself that any benefit had been derived from this treatment. On the other hand, he witnessed very satisfactory results from the use of jaborandi in acute rheumatism, and in anasarca depending on acute or subacute nephritis, of which latter he gives two interesting cases. He recommends the following method of prescribing the drug, viz., jaborandi leaves three grammes (46 grains); infuse in 150 grammes of warm water; add two grammes of acetate of ammonia, and 25 of syrup; mix; the dose is one tablespoonful daily. As regards pilocarpine, its physiological action may be considered under two divisions, namely, the constant and the inconstant; among the former he enumerates flushing of the face, a sense of heat, salivation, perspiration, rise of temperature, increased frequency of pulse and respiration; among the latter, an increase in the quantity of urine voided (in which he differs from most observers, and an increase in the nasal and lachrymal secretions. He saw vomiting occur only in one instance, and never saw any augmentation of the bronchial or intestinal secretions. He considers the phenomena induced by pilocarpine to depend partly on acceleration of the circulation, with increased tension, especially in the peripheral capillaries, and partly on a specific action exerted on the nervous centres.

8. *Viforcos on Salicylate of Lime in Syphilitic Ulcers*.—Dr. Rodriguez Viforcos (*El Siglo Medico*, March 1880) gives two cases of syphilitic ulcer, in which the beneficial effects of salicylate of lime were very marked. The first case was one of soft sores, five in number, occupying the sutures between the prepuce and the gland. These were dressed several times a day with a two per cent. solution of

the salicylate of lime. Within eight days the surface of the ulcerated patches was perfectly clean, the character of the inflammation had changed, and in three days more (eleventh of treatment) healthy granulations had everywhere appeared. The second case was one of phagedenic ulceration of the skin of the penis, extending from the middle to the base of the organ. The parts were very much swollen, and the destructive action was evidently spreading. The author refrained from cauterisation, believing that such a procedure tends if anything to increase the probability of necrosis, but had recourse to carbolic acid, alcohol, tincture of iodine, and various other medicaments. None of these, however, giving satisfactory results, he tried the same solution of salicylate of lime as in the preceding case. The effects were remarkable; the pain at once became less, and cicatrization, hitherto so sluggish, now set in with healthy vigour. Within thirty days of commencing the application of the salicylate, the ulcerated surface was completely healed over.

9. *Gatti, Petersen, and others on the Toxic Action of Salicylate of Soda.*—This subject, though manifestly of extreme importance, has attracted comparatively little attention in England. On the Continent, however, several observers have lately recorded well-marked and unmistakable cases of subacute poisoning by salicylate of soda. Thus, in a record of 250 cases, Gatti (*Gazzetta degli Ospitali*, Feb. 29, 1880) witnessed unpleasant and even alarming symptoms in four. In one, the drug administered in doses of twelve grains every four hours, during a period of ten hours, caused drowsiness, deafness, and complete amaurosis; in another, subacute delirium; in a third, severe gastralgia; and in a fourth, well-marked dyspnoea. Petersen (*Deut. Med. Woch.*, Nos. 2, 3, 1877) mentions a case in which twenty-two grammes, administered in the space of six hours, induced disturbances both of respiration and circulation. But Gubler (*Journal de Pharmacie*, June 1879) goes farther than either of these observers in his estimate of the toxic properties of both salicylic acid and its soda salt. According to him, they at times produce effects not inferior to those of an irritant poison. Among such he enumerates severe colic, copious diarrhoea, cyanosis, and collapse, with eventually ulceration of portions of the digestive tract. On the other hand, a long array of names may be quoted in support of conclusions, diametrically opposed to those of Petersen and Gubler. In this case, however, negative evidence is of comparatively little importance. The question at issue is not the possibility, but rather the frequency, or otherwise of salicylic intoxication. Of the fact of such having occurred, there is unfortunately no room for doubt; both clinical observation and physiological experiments having thoroughly established it. Chirone and Petrucci (*Commentario Clinico di Pisa*, January and February 1878) have demonstrated that salicylate of soda administered to animals first increases and then diminishes the frequency of the respirations, while Buss and Kæler have shown that dogs and rabbits poisoned by it have died with the symptoms and *post mortem* signs of asphyxia. Considering the very extensive use of salicylate of soda as a therapeutic agent, it is important to have some ready means of watching its action on the system. Administered in medicinal doses, it can generally be readily detected in the urine within two hours of its ingestion. The best and most sensitive test of its presence is a few drops of perchloride of iron added to the urine in a test-tube. If salicylic acid be

present, a bright violet colour, due to the formation of salicyluric acid, will at once be struck. This reaction is extremely delicate, and may be relied on if one part in a million of the acid exists in the sample of urine. It being known that almost if not all the acid ingested is eliminated by the kidneys, its presence will be a more or less satisfactory proof that these organs are physiologically sound. Should it not appear, however, it is evidently either accumulating in the system, or is undergoing some abnormal decomposition by which its chemical characteristics are being essentially altered. Seeing, therefore, that the toxic effects of salicylate of soda may manifest themselves at any moment, and in any case some general rules as regards its administration seem to be called for. Judging from their known physiological action, all salicylates should be given with considerable caution, in cases either of phthisis or of renal disease. Their employment should at once be stopped, or at least very carefully watched, whenever the characteristic appearances in the urine cannot readily be detected within two hours after ingestion of the medicine. The possibility of idiosyncrasy in certain individuals should always be borne in mind, together with the fact that salicylic acid itself is not unfrequently adulterated with carbolic acid. The importance of this latter fact is self-evident. After all, however, very little is as yet accurately known as regards the indications either for or against the use of salicylic acid and its salts. In such circumstances, therefore, the practitioner can do little more than study carefully and intelligently each case on its own merits, bearing in mind that, so far as at present observed, all untoward symptoms have quickly passed off, without having left any permanent ill effects.

10. *Gatti on a Case of Complete Amaurosis from the Use of Salicylate of Soda.*—Dr. Francisco Gatti (*Gazzetta degli Ospitali*, February 29, 1880) reports a case of sudden and complete amaurosis, which lasted ten hours, and was induced by the medicinal use of salicylate of soda. The patient, a girl aged 16, was suffering from acute articular rheumatism, for which 12½ grains of the drug to be prescribed every hour during ten hours. After taking this amount the articular pains were relieved, but the patient was seized with deafness, noises in the ears, and complete blindness. The pupils were widely dilated, and the sclerotic and cornea on each side highly sensitive. After perception of light had returned, the mydriasis still continued. The ophthalmoscopic examination generally gave negative results. Neither the urine nor the saliva yielded the characteristic re-action of salicylic acid in presence of ferric perchloride. The ocular symptoms lasted in all about ten hours, but left no permanent impairment of sight.

11. *Da Silva Araujo on the Treatment of Elephantiasis Arabum by Electricity.*—In a long and exhaustive monograph on the subject of elephantiasis Arabum, a disease of common occurrence in Brazil, Dr. da Silva Araujo lays down a plan of treatment which he has thus far found to be attended with remarkable success. He refers to some previous experiences which he has already published, and which excited a certain interest in France and other countries (see *Archives de Médecine Navale*, 1878, p. 200, and a communication made by Dr. Spencer Cobbold to the Medical Society of London, reported in the *Lancet* of March 30, 1878). In the present paper (reprinted from the *Gazeta Medica da Bahia*) the author gives very full details of two recent cases, in which a complete cure was effected. The first case was.

that of a half-caste woman, aged 26, whose right leg was affected. Twelve years previously she had sprained her right ankle, from the effects of which injury she never completely recovered. Three years ago the first attack of erysipelas appeared, and was followed at intervals by fresh attacks, which in the third year amounted to the number of five. The left limb was not affected in any way. The author examined the blood and lymph carefully for the *filaria Wuchereri*, but could not detect its presence either before or after the treatment. This case was submitted to continuous electric currents for a period of eleven months. The result was an absolute cure. The right leg was to all appearance perfectly natural, and had also recovered all its normal powers of movement, etc. The second case occurred in a girl, aged 20, who at the age of 9 had twisted her right foot. The injury was followed at the time by infiltration, and a year afterwards by an attack of erysipelas, with another attack two years later. These manifestations occurred at frequent intervals subsequently, but not with any regularity. In this case, also, no hæmatozoa could be found; but they were not, according to the author, looked for until a considerable time had elapsed after the commencement of treatment. In this case, the limb was so deformed and enlarged as to present the appearance of a 'mountain of flesh'. Nevertheless, after treatment by induced currents, a cure was effected; the tissues, in the words of the author having been restored to a condition 'physiologically perfect'. In both cases the beneficial action of the electricity was signalled from the first by the presence of a copious and increasing perspiration in the limb, which had previously been dry, by the return of cutaneous sensibility, and in the case of the first-mentioned patient, by a cessation of certain gastric symptoms which had been present more or less constantly throughout the whole period of the attack. The author found that the electric treatment was rendered more efficacious by the limb being kept in a horizontal and elevated position, and by methodical pressure with pads or elastic bandages. He also found benefit from the use of tonics internally. The author considers that the affection is by no means dependent on the presence of a hæmatozoon, the *filaria Wuchereri*. In seven cases in which he looked carefully for it he failed to find it, but found instead, in the lymph extracted from a case of scrotal elephantiasis, acari, probably, as he suggests, the *A. domesticus*, which had lodged in the cutaneous crevices and rugæ, and had thence perhaps fallen into the fluid as it quitted the lymphatic vessel. With Virchow, the author believes that elephantiasis depends essentially upon a hyperplasia of the connective tissue, which induces a fibrosed condition of the lymphatic ganglia. The lymphatics become dilated and paralysed, while owing to this, and also to the attendant atrophy of the muscular fibres of the limb, the lymph-circulation becomes sluggish. The *modus operandi* of the treatment by electricity he considers to be as follows. The contractile fibres existing in the walls of the large lymphatics are stimulated to action, and thereby the general lymph-circulation is accelerated; the capillaries are thus enabled to empty themselves, and thereby the general congestion, with its attendant train of circumstances, is removed. Should, however, the disease be considered as of parasitic origin, and dependent on the presence of the *filaria* above mentioned, then the author suggests that the electricity may have a directly fatal effect on the hæmatozoon—an effect which he likens to that caused on the human organisation by a shock powerful

enough to destroy life. [If the author has really discovered a successful mode of treating elephantiasis Arabum, the importance of his discovery can scarcely be overrated. It is to be regretted, however, that the details of treatment in his monograph are so meagre, while the number of cases as yet observed by him are not sufficient to furnish conclusive data of the value or otherwise of his method. Probably few will agree with him in holding that the hæmatozoa can be killed by the 'shock' of a feeble induced current.—*Rep.*]

12. *Bourgeois on the Therapeutic Uses of Permanganate of Potash.*—Dr. Bourgeois (*Bulletin Général de Thérapeutique*, March 15, 1880) recommends the use of potassic permanganate in solution of 0.1 per cent. in cases of balanitis and herpes proputialis, and generally in all cases of unhealthy discharges from the female genital organs, whether of syphilitic origin or not. He gives details of two cases of leucorrhœa treated by injections of potassic permanganate, in which a successful result was rapidly attained. The author considers that, in such cases, the permanganate acts by virtue of its astringent rather than its antiseptic properties, which latter come into play only in purulent and old standing discharges, complicated with a certain amount of inflammation of the mucous membrane.

13. *Maurel on the Disinfection of Typhoid Fever Stools by Charcoal.*—Dr. Maurel lately read a memoir before the Société de Thérapeutique, on the subject of the disinfecting power of charcoal used internally on the fœtid stools of typhoid fever. He concludes that charcoal, in doses of 1.5 to 2 grammes daily, is sufficient for this purpose; that this disinfection cannot be other than beneficial to the patient, by preventing the absorption of putrid matters, and by assuring regularity in the course of the intestinal lesions; and that a disinfection which can so thoroughly destroy this odour may perhaps also be able to destroy the specific virus contained in the stools themselves.

14. *Marcacci on Marine Glue in the Treatment of Skin-Disease.*—Dr. Marcacci (*Giornale Internaz. delle Scienze Mediche*) describes the chemical and surgical properties of marine glue, which he has used with great success in certain forms of skin-disease. He gives details of eight cases, chiefly eczema and impetigo, in which this application brought about a cure, when all others had failed. He generally uses a solution of five to ten parts of the glue to 100 of alcohol, applying it with a brush over the affected parts once or twice daily. The application causes no pain, and dries quickly, forming a pedicle, which eventually becomes detached along with the epidermis, which latter is then renewed in a healthy form.

LITTON FORBES.

15. *Lucas on Cure of Tetanus by Smoking Hemp.*—Dr. John C. Lucas (*Medical Times and Gazette*, February 1880, p. 202) strongly advocates the treatment of tetanus by smoking Indian hemp. The leaves of the cannabis Indica are mixed with three or four times their quantity of ordinary tobacco. Directly there are indications of a spasm coming on, the fumes are inhaled until the attack ceases. The patient is then left quiet, but carefully watched, so that the pipe may be instantly handed to him, on any appearance of the spasm returning. In this way the patient is kept continuously under the influence of hemp, day and night, nourishment being carefully administered at the same time. The advantages claimed for this mode of treatment are these. 1. The spasms are cut short. 2. They reappear gradually at

longer and longer intervals. 3. They gradually become not only less frequent, but less severe. 4. This saves the patient's vital powers. [Mr. Khasligr treated five cases of traumatic tetanus, all recovering, by this method. His paper may be found in the *Indian Medical Gazette*, August 1878. In the *Practitioner*, vol. i, 1879, p. 57, a short abstract may be consulted.]

16. *Hewan on Salicylate of Quinine*.—From a personal experience, Dr. Archibald Hewan (*Lancet*, April 1880, p. 540) speaks most favourably of salicylate of quinine in rheumatic affections. A lady, returned from Paris, seeing Dr. Hewan suffering from a rheumatism of his left lower extremity, advised him to try salicylate of quinine, which had cured her son of a sharp attack of rheumatic gout in a wonderfully short period. In twenty-four hours, the relief Dr. Hewan experienced confirmed the truth of the lady's testimony to the virtues of the drug. At page 588, Dr. Hewan supplements his remarks by detailing another case in which the drug proved eminently useful.

17. *Ranking on Arsenic in Uterine Hæmorrhage*.—In the *Practitioner*, February 1880, p. 99, Dr. G. S. A. Ranking testifies to the great value of ten-drop doses of Fowler's solution in uterine hæmorrhage, given twice a day, either alone or in combination with a mineral acid. [Mr. Henry Hunt, in March 1838, read, before the Royal Medical and Chirurgical Society, a paper upon the use of arsenic in uterine disorders, and gave histories of six cases of menorrhagia where the drug had proved eminently successful. In the *Medical Times and Gazette*, Dec. 1859, p. 587, Dr. Burns endeavoured to impress upon the profession the great utility of arsenic in menorrhagia and leucorrhœa. He also stated that he knew no remedy so effectual in arresting hæmorrhage in threatened abortion, twenty drops of Fowler's solution being given at once, and then ten every twenty minutes, until the symptoms had passed. In *post partum* hæmorrhage, the same treatment was equally efficacious. In cases of prolonged and excessive lochial discharges, five to ten drops thrice a day quickly cured. In the *British and Foreign Medical-Chirurgical Review*, January 1872, p. 240, Dr. Aveling reports twelve years' experience of the value of arsenic in menorrhagia and leucorrhœa. Besides producing improvement in the general health, he believes that it possesses a powerful influence in lessening congestion in mucous membranes. He confidently recommends it in all disorders of the uterus having a hyperæmic origin.—*Rep.*]

18. *Neale on Quinine as an Ecbolic*.—In reply to several papers that have appeared in the *Practitioner* in April and July 1877, and December 1879, Dr. Richard Neale, in March 1880, p. 170, gives his experience of nine years' liberal use of quinine in Java, which fails to bear out the assertions of those observers who found the drug an active ecbolic. A reference to section 401-6 in the *Medical Digest* will shew that, while many observers believe quinine to be dangerous in the pregnant condition, still, there are several who believe, with Dr. Neale, that quinine may be safely administered during pregnancy.

19. *Gray on Recovery from Twenty-two Grains of Strychnia by the Use of Chloral*.—Dr. G. Gray (*British Medical Journal*, March 1880) had often seen the good effects of chloral on dogs who had been poisoned by strychnia; but, on December 29, 1879, he was called to see a man, aged 34, who had, two hours previously, swallowed twenty-two grains of strychnia

suspended in a glass of whiskey. A drachm of chloral was given slowly between the clenched teeth, and in ten minutes the convulsions were decidedly less, and the jaws more relaxed, so that it was attempted to introduce the stomach-pump tube; this, however, causing great distress, was not persevered with, but an emetic of sulphate of zinc was given, followed, when it had acted, by a dose of tannin, which was speedily rejected. After an hour, slight tremors existing in some of the muscles, another half drachm of chloral was administered, and, some hours subsequently, another half drachm, without the induction of sleep, but the patient was cured, two days afterwards being at his usual work.

20. *Meldon on Intravenous Injection of Milk*.—In addition to five cases already published, details of which Mr. Austin Meldon, of Dublin, will be happy to forward to anyone interested in the subject, short notes of three other cases are to be found in the *Lancet*, January 1880, p. 76. M. C., aged 70, had four-and-a-half ounces of goat's milk, at 100 deg. Fahr., injected when in a hopeless condition from pernicious anæmia, complicated with chronic eczema. In twelve days she returned home cured. M. W., dying from spinal disease and phthisical diarrhœa, was, in a week after the injection, able to be removed home, much improved in health. L. N., in the last stage of phthisis, reduced to the utmost with hectic and diarrhœa, was greatly improved in health, the diarrhœa being cured for three weeks. At page 527 the case of M. M., aged 40, is given in more detail. Three and a half ounces of goat's milk were injected in May 1879, when his friends were daily expecting his death. Relief was immediate, and in six weeks he was able to resume his work as a pawnbroker's assistant. In November 1879, a relapse followed, and by January his condition was apparently hopeless, when the milk injection was again given with speedy relief to all the urgent symptoms. Mr. Meldon has now used this means in ten cases, all moribund; four are permanently cured; in the others life was considerably prolonged.

21. *Cottle on Salicylic Acid in Ringworm*.—In the *Lancet*, March 1880, p. 483, Mr. Wyndham Cottle speaks highly of the value of salicylic acid, half a drachm, alcohol or benzine, one ounce, well rubbed in thrice a day, in all cases of recent disease; while, in chronic tedious cases, the croton liniment of the *London Pharmacopœia* speedily cures the disease. The advantages claimed for this mode of treatment are these: 1. It is comparatively painless, easy and agreeable to carry out; and if salicylic acid be employed, there is no unpleasant odour. 2. No poisons are used, and, therefore, no fear of absorption exists. [In a case under the reporter's notice, the oleate of mercury caused salivation]. 3. The inconvenience of a pustular rash on the scalp (if it become necessary to resort to croton-oil) is less irksome to the child than the acute pain of the ordinary vesicating remedies. 4. No permanent loss of hair results. 5. Many intractable cases rapidly mend when so dealt with. At page 581, Mr. Alder Smith states his reason for preferring croton-oil to the croton oil liniment, a method he advocated in the *Lancet*, p. 126, croton-oil producing a deeper irritation, simulating cherion, and not being liable to extend beyond the spots touched, as is too often the case with the liniment.

22. *Robson on the Uses of Nitro-Glycerine*.—In the *British Medical Journal*, April 1880, p. 556, Mr. A. W. Mayo Robson confirms the value of nitro-glycerine in cases of migraine, angina pectoris, and asthma, one

severe case of this latter disease being most remarkably cured by the drug. [Soon after the powers of nitro-glycerine were brought before the profession by Mr. Field in the *Medical Times and Gazette*, 1858 and 1859, the marvellous powers which the drug possesses of relieving the spasm of asthma were fully tested by the reporter among patients living in the malarious climate of Java, where the disease is very common. Frequently the tongue of the patient was touched with the stopper of a bottle containing a 5 per cent. solution, when the paroxysm was so severe as to cause consternation to all around, and in less than a minute there was a great calm; the patient, especially if a superstitious Chinaman or Malay, believing himself to be the subject of a miracle.—*Rep.*] R. NEALE.

PATHOLOGY.

RECENT PAPERS.

1. CLARK.—On the Brain of a Hydrocephalic Imbecile. (*Journal of Mental Science*, Oct. 1879.)
2. HARBINSON.—On Sclerosis of the Nervous Centres. (*Medical Press and Circular*, Feb. 1880.)
3. BAUMGARTEN, P.—On Generalised Obliterative Inflammation of the Cerebral Vessels. (*Virchow's Archiv*, Band lxxvi.)
4. SÖTNISCHEWSKY.—On Œdema from Blocking. (*Virchow's Archiv*, Band lxxvii.)
5. MAZZOTTI, LUIGI.—On Changes in the Digestive Tract in Cases of Phthisis. (*Bulletino delle Scienze Mediche*, Feb. 1880.)
6. THIN, G.—On Nail-Furrows following Disease. (*Lancet*, March 1880, p. 445.)

1. *Clark on the Brain of a Hydrocephalic Imbecile.*—Dr. A. Campbell Clark reports (*Journal of Mental Science*, October 1879) the results of an examination of the brain of a hydrocephalic imbecile, who suffered from congenital right hemiplegia, with defective sensation of the same side. The main feature of the case was the complete dissociation of the left occipital lobe from the rest of the brain. It was connected with the temporo-sphenoidal lobe merely by a process of pia mater. The lobe was small, and had evidently been arrested in its development at a very early period. There was no evidence, however, of degeneration in any of its cells. At the point of demarcation between white and grey matter there was a looped arrangement of bundles of fibres, passing from one group of cells to another. Besides the intergyral association fibres, whose loops connected adjacent convolutions, there were intragyral fibres, whose loops connected parts of the same convolution. In view of the hemiplegia, it is interesting to note the arrested development of the left island of Reil and ascending convolutions, the abnormal condition of the left corpus striatum, and the atrophy of the left crus and anterior pyramid. There was also defect in the sensory projection system of the left side. The posterior pyramid of the medulla, the tegmentum, and the optic thalamus were relatively small; parts of the temporo-sphenoidal lobe were disorganised, and the occipital lobe was, as just described, detached from the rest of the brain. Three arachnoid cysts were found, and the cranium was asymmetrical.

2. *Harbinson on Sclerosis of the Nervous Centres.*—The author relates (*Med. Press and Circular*, February 1880) three cases of sclerosis, associated with unusual motor symptoms. The movements resembled

those of chorea; they were not tremulous or oscillatory. They ceased during perfect rest, were greatly intensified by emotional disturbance, and affected the muscles of the face but little. In one case they were in a measure controllable by the will. The muscular unsteadiness appeared before the paresis. The degree of heredity was remarkable. The patients in all three cases were related to one another, and in one case the affection had appeared in five successive generations. An instance is mentioned in which the disease occurred in a child only four years old. Two of the cases have already terminated fatally, and in both sclerosis of the caudate nucleus was found. In one there was also, in the cervical region, diminution in the number and size of the ganglion-cells of the anterior cornua, and sclerosis of the central part of the grey matter. W. J. DODDS.

3. *Baumgarten on Generalised Obliterative Inflammation of the Cerebral Vessels (Syphilitic).*—Dr. P. Baumgarten (*Virchow's Archiv*, Band lxxvi) describes the case of a woman, aged 32, who suffered marked cerebral symptoms. At the necropsy, the arachnoid, between the pons Varolii and the chiasma, was found to be changed into a brawny bacilliform tissue. In the pia mater, along the course of the artery of the fossa of Sylvius and the supra-orbital convolutions, were situated a large number of greyish-white and yellow nodules, larger than mustard-seeds; no tubercles. The middle cerebral arteries showed marked thickening; the branches of the Sylvian arteries were changed to nearly solid greyish-white round cords, partly cylindrical, partly varicose, and in many parts grown together. The nodules above mentioned proved to be circumscribed tuberosities in the smaller arteries. The arteries of the anterior portion of the brain were still more changed; their commencing portions, as well as the anterior communicating artery, were obliterated. The posterior cerebral arteries, and also the vertebral and basilar (except a circumscribed spot), were mostly unchanged. The new growth of the arachnoid was composed for the most part of a granulation-like tissue, with a great number of obliterated arterial vessels here and there containing a fatty-caseous detritus. With regard to the diffuse changes of the vessels, Baumgarten refers to an earlier communication (*Archiv der Heilkunde*, vol. xvi); they consist essentially of endarteritic growths. The nodular new growths of the carotids proved to be small-celled infiltrations of the thickened adventitia; here and there were typical giant-cells, and moderate thickening of the inner membrane. The periarteritic nodules on the small arteries consisted of a proliferation of the middle and inner coats, rich in cells and nuclei; most of the arteries of the pia mater on the convexity were also the seat of obliterative inflammation without general inflammatory reaction in the surrounding tissue. There were no changes in the ganglia and neuroglia, nor any sign of anæmic necrosis. The posterior cerebral arteries must have alone supplied the whole of the cortical region with blood. Baumgarten regards this case as a proof of the theory of the gummatous nature of the disease of the vessels, which he has always held, and which is supported by the presence of the evidently gummatous tumours of the arachnoid. The case described by Meyer, of extensive periarteritis nodosa, which he regards as due to a rupture of the middle coat (no change in which could be perceived), Baumgarten holds to be of a primary periarteritic nature and identical with the disease described by Kussmaul and Maier.

4. *Sotnischewsky on Oedema from Blocking*.—Sotnischewsky (Virchow's *Archiv*, Band lxxvii) has arrived at the following results from a series of experiments performed in the Leipsic Institute. Ligature of the large veins alone was not sufficient to produce oedema, in consequence of the numerous collateral connections with the central parts of the body; nor was any change produced by ligature of single collateral vessels. Experiments performed according to Ranvier's method (with section of the nerve-trunks) gave no striking results. On the other hand, when artificial thrombosis of the veins was produced, by injection of gypsum mixture into the peripheral veins, the central ends having been previously secured, an oedematous swelling was found at the end of an hour and a half or two hours, and reached its highest point in the course of two days. In all such cases, there was a true *stauing-oedema* with thin scarcely coagulable lymph, containing numerous blood-corpuscles (not, as in Ranvier's experiments, principally colourless ones). The occurrence of oedema after ligature of the venæ cavæ and simultaneous division of the sciatic nerve, as observed by Ranvier and by Sotnischewsky in one experiment, is explained by the circumstance that, in paralysis of the vaso-motor nerves and the consequent increased afflux of blood, the collateral veins are not sufficient for the afflux; and this is in accordance with the direct increase of blood-pressure in the ligatured femoral vein after division of the sciatic nerve. It follows from this, that local oedema follows obstruction to the flow of blood in the veins, only when such obstruction cannot be compensated by the circulation in the collateral veins.

5. *Mazzotti on Alterations in the Alimentary Tract in Pulmonary Consumption*.—Dr. Luigi Mazzotti (*Bulletino delle Scienze Mediche*, February 1880) continues from the preceding number his researches on the changes in the digestive tract, which occur in pulmonary consumption. Out of fifty cases, he found ulceration present more or less in thirty-seven. (See LONDON MEDICAL RECORD, April 1880.) In one case only did he find tubercles. In twelve cases there were no changes whatever. In nine, however, of these the pulmonary lesions were comparatively slight, and were associated with other and more or less important changes. As regards the situation of the ulcers, the author divides them into those (a) where one part only of the digestive tract was invaded; this was so as regarded the small intestine in eleven cases and as regards the large in five; (b) where two parts were involved, viz., in eighteen cases, both the large and small intestine, and in one case the pharynx and small intestine; (c) where three parts were involved, viz., in one case the stomach and small and large intestines; (d) where four were involved, viz., in one case the tongue, pharynx, large and small intestine. In all these positions the morbid process had commenced with tumefaction of the lymph-follicles, followed by ulceration, which spread from the mucous membrane to the subjacent tunics. In the case of ulcers of the stomach, the only lesions present were those referable to ordinary catarrhal inflammation. In all the cases examined tubercles were found, with varying frequency and at varying distances from the patches of ulceration. Subserous tubercles were found in one case, in which the typical lesions of phthisis were wanting. Tubercles of the mucous membrane without ulcers were found in one case of phthisis, and in a case of canceroid of the scrotum. He concludes from these researches that it is not perfectly correct to speak of 'tubercular ulcers

of the digestive tract' as symptomatic of pulmonary phthisis or tuberculosis. Tuberculosis and tubercular ulceration of the intestines are not synonymous expressions.

LITTON FORBES.

6. *Thin on Nail-Furrows following Disease*.—Dr. Thin (*Lancet*, March 1880, p. 455) reports a case in which the furrows, developed on the nails during an acute attack of colic, did not disappear before the end of four months. [Numerous observers have remarked on these nail-furrows, *vide Medical Digest*, section 32-3. A possible practical value was sometime since pointed out, viz., in cases of life assurance, when the applicant, who had been induced to seek an insurance on account of a recent illness, denies that he has suffered from any indisposition; an examination of the nails will prove, at times, that such an assertion is not worthy of credence.—*Rep.*]

R. NEALE, M.D.

SURGERY.

RECENT PAPERS.

1. OBERST, MAX.—On the Influence of Age in Cases of Amputation. (*Centralblatt für Chirurgie*, No. 2, 1880.)
2. VOLKMANN.—On Removal of Effused Blood from Joints by Puncture. (*Centralblatt für Chirurgie*, No. 10, 1880.)
3. MONOD and TERRILLON.—On Inguinal Castration. (*Archives Générales de Médecine*, 2, 3, 1880.)
4. LANGE, VICTOR.—Critical Remarks on Adenoid Vegetations in the Naso-Pharynx, with a Method of Operating. (*Monatsschr. für Ohrenheilkunde*, Feb. 1880.)
5. PATERSON, J. L.—On a Case of Imperforate Anus. (*Gazeta Medica da Bahia*, No. 12, 1879.)
6. MARCACCI.—On the Removal of a Large Neoplasm from the Bladder. (*L'Imparziale*, Feb. 1880; and *Gazzetta Med. Italiana*, No. 11.)
7. LO GRASSO.—On the Results obtained by the Antiseptic Treatment in Amputations. (*Gazzetta Clinica di Palermo*, Anno xii, Fasc. I, 11.)
8. CREUS.—On the Cure of Urethro-Perineal Fistula. (*El Genio Médico-Quirúrgico*, No. 1280.)
9. CASELLI.—On Extirpation of the Larynx, Pharynx, Base of the Tongue, Velum Palati, and Tonsils. (*Bulletino delle Scienze Med.*, February 1880.)
10. RUGGI, GIUSEPPE.—On Transverse Perineal Urethrotomy in Obstinate Strictures. (*Bulletino delle Scienze Mediche*, Feb. 1880.)
11. HARRAEZ, ENRIQUE.—A Rare Form of Spermatorrhœa. (*El Siglo Médico*, April 18, 1880.)
12. OCANA, DOROTEO.—A Case of Hydrocele of the Tunica Vaginalis. (*El Siglo Médico*, March 21, 1880.)
13. DUNCAN, W. P.—Chronic Abscess of the Antrum treated by Drainage. (*New York Med. Record*, April 17.)
14. WARREN, J. C.—The Treatment of Irreducible Hernia. (*Boston Med. and Surg. Journal*, March 18.)
15. MORTON, T. G.—On a Painful Affection of the Foot. (*Ibid.*, April 15.)
16. MACEWEN, W.—On Decalcified Drainage-Tubes. (*British Medical Journal*, March 1880, p. 483.)
17. NICHOLSON, BRINSLEY.—On Sheet-Lead in treating Ulcers and Wounds. (*Medical Times and Gazette*, March 1880, p. 315.)
18. KARTULIS, STEPHEN.—On Recovery after a fall from a height of Seventy Feet. (*Lancet*, March 1880, p. 486.)
19. BARKER, A. E.—On Nephrectomy. (*Lancet*, March 1880, p. 402.)

1. *Oberst on the Influence of Age in Cases of Amputation*.—Dr. Max Oberst, of Halle, in a contribution on the influence of age on the course of cases of amputation (*Centralblatt für Chirurgie*,

No. 2, 1880), remarks that until quite recently it had been generally recognised through long surgical experience, that the mortality after amputations was influenced in a considerable degree by the age of the patients, and that amputation cases took a much more unfavourable course with subjects of advanced age than with those in the prime of life. It was held that in the former the absence of fat, and the laxity and dryness of the subcutaneous cellular tissue, conducted to phlegmon, whilst the unfavourable state of the circulation would be likely to cause gangrene of the flaps, and consequently to set up putrefaction. By some surgeons this decreased resistance in old people was regarded as a contra-indication to the operation. Since the introduction of the antiseptic treatment of wounds, this view has been proved to be erroneous; and it has been shown, according to the author, that the age of the patient has no influence on the course and result of an amputation, provided two things be certainly prevented, namely septic processes with consequent septic fever, and excessive loss of blood. Whilst the effects of sepsis and loss of blood may, in a certain degree, be overcome by the vital energy of youth, but a slight amount of either of these two evils will suffice in old age to break down vitality, and to hasten the end of the patient. In order to reduce the difference between different periods of life with regard to recovery after amputations, the surgeon must endeavour to prevent too great loss of blood, and the development of septic processes. Against both these evils, fortunately, he is now able to guard. Against sepsis he is ensured by Listerism, and, with the help of Esmarch's constrictor and with immediate arrest of the hæmorrhage on loosening of this band, he is able to reduce loss of blood to a minimum. The above statement would be best illustrated, the author suggests, by a comparison, without respect to the ages, of the patients of cases of amputation treated antiseptically with cases in which the patients were over fifty years of age. Of 200 patients subjected to amputation in the surgical practice of Professor Volkmann from March 1874, nine died, that is 4.1 per cent.; of 48 patients, who were above fifty, two, or 4.17 per cent., died. In other words, the result of the amputations, *quoad vitam*, was not influenced by age. Of the 48 patients of advanced age, 30 were between 51 and 60 years old, 13 between 61 and 70 years, 4 between 71 and 80 years; and one patient who recovered after an amputation through the thigh was 84 years of age. Of the 48 amputations, 7 were through the forearm, 6 through the arm, one a removal of the upper extremity, 7 were partial amputations of the foot, 13 through the leg, and 14 through the thigh. In one of the fatal cases, death was caused through tetanus after amputation of the leg for senile gangrene in a patient aged seventy-four. In the second case, the patient, a man aged fifty-six, and depressed through excessive indulgence in alcohol, died sixty hours after amputation of the leg for injury; the wound up to the time of death presented a healthy appearance. In all cases of amputation that were treated antiseptically, the wound healed without any reaction; and in not a single instance was the stump attacked by phlegmon, suppurative of bone, or phlebitis. In half the cases there was healing by primary intention, and in the remaining cases the healing was delayed either by limited aseptic gangrene of the margins of the flaps, or by slight fistulous suppurative.

2. *Volkmann on Removal of Effused Blood from Joints by Puncture.*—The following questions, Prof. Volkmann points out (*Centralblatt für Chirurgie*,

No. 10, 1880), are of considerable practical importance. Does the blood effused into an injured joint coagulate, or does it not? If it does coagulate, when and under what conditions does this coagulation take place? When and under what conditions is the blood absorbed? In a great number of cases of puncture of an injured joint, the author always found the effused blood wholly, or almost wholly, fluid, when the trocar had been used in the course of the first three days. In one case on the sixth day, and in three cases after the eighth day, a considerable quantity of fluid blood, without any trace of clot, was drawn off. In most cases of puncture practised between the fourth and the eighth days, the great mass of the blood was found to be fluid, but was mixed with clots, some of which came away through the cannula, whilst others remained within the joint. In one case of transverse fracture of the patella with wide separation of the fragments, and considerable distension of the synovial sac by blood, all the effused fluid was found coagulated on the fifth day, so that not a drop could be withdrawn by aspiration, but only a few fragments of firm clots. The following case is quoted as being opposed to the view that coagulated blood within a joint, even when in considerable quantity, is rapidly absorbed. The patient was a man, aged forty, whose lower limb was amputated through the thigh, fourteen weeks after a compound and comminuted fracture of the tibia, associated with much contusion of the knee. The synovial sac of this articulation was found to be distended by a large mass of coagulated blood. The coagula were purely adherent to the inner surface of the capsule. The joint did not contain any synovial fluid. Puncture of an injured joint was first recommended by Prof. Volkmann in 1861, as a plan of treatment to be carried out in cases of fracture, extending into a joint where the adaptation of the fragments is prevented in consequence of the amount of effused blood. In a case of transverse fracture of the patella with much effusion into the knee-joint, three ounces of blood mixed with synovial fluid were drawn off by an aspirating syringe on the second day. The fragments of the patella were then brought together by strapping, and a gypsum bandage was applied. At the end of the eighth week there was union which, if not osseous, was at least so strongly fibrous that no movement of the fragments on each other could be made out. Since the introduction of the antiseptic method of treating wounds, Prof. Volkmann has practised puncturing in every case of traumatic hæmarthrosis of the knee. In 1873, in addition to the case already mentioned of transverse fracture of the patella, there were three cases of contusion of the knee with intra-articular effusion of blood, in which this plan of treatment was carried out. In cases of extensive traumatic effusion of blood within the knee, if no such treatment be followed, the blood-clot is often removed very slowly, and the injury is followed after a time by hydrarthrosis, stretching of ligaments, and other serious changes. According to recent experiences of Prof. Volkmann, rapid organisation of the effused and coagulated blood may cause ankylosis and total obliteration of the injured joint. This, however, rarely occurs, the usual result of traumatic hæmarthrosis being the deposit on the lower surface of the synovial membrane of an uniform layer of firm clot, through which the secretion of synovial fluid is altogether suppressed. On the death of a patient, eleven months after a transverse fracture of the patella through direct violence, and long after the

fragments had united, partly by bone, the knee-joint was found to be ankylosed, and the articular cartilages to be bound together and to the synovial membrane by a continuous layer of dense connective tissue, which prevented the least movement. This layer of connective tissue was of a rust-brown colour, and, as did also the synovial membrane, presented deposits of granular blood-pigment.

3. *Monod and Terrillon on Inguinal Castration.*—The following *résumé* is given in the concluding portion of an original memoir on castration in inguinal ectopia by Monod and Terrillon of Paris (*Archives Générales de Médecine*, Nos. 2 and 3, 1880).

1. Inguinal castration is not a dangerous operation, and in a large majority of cases the patient recovers. 2. Peritonitis is not, as has been maintained, an inevitable and constantly fatal consequence of the operation. It is, indeed, an unfrequent result. It was observed but in three of fifty cases, and in one only of these was it fatal. 3. The indications of inguinal castration need not sensibly differ from those of scrotal castration. 4. In cases of tumour, the operation may be practised with less hesitation, since degeneration of the misplaced gland is most frequently of a cancerous nature, and the inguinal testicle is in all cases incapable of generative function. 5. The operation could, and indeed should, be performed at an early period, with the hope of preventing a relapse, which hitherto has been of almost constant occurrence. 6. Inguinal castration is indicated when the misplaced testicle is painful or when it is the seat of serious or repeated inflammatory affections (pseudo-strangulation). The inutility of the organ with regard to its function, is a point in favour of active intervention. 7. The operation is an easy one, and does not, as a rule, need the employment of any special proceeding. W. JOHNSON SMITH.

4. *Lange on Adenoid Vegetations in the Naso-Pharynx, and their Treatment.*—Another method of removing adenoid vegetations in the naso-pharynx has been added by the author of this paper (*Monatsschr. für Ohrenheilkunde*, Feb. 1880). Dr. Lange, formerly assistant to Dr. Meyer of Copenhagen, whose work on this subject is well known, thinks that in treating these growths it is practically only necessary to regard those situate on the roof and upper part of the posterior wall of the pharynx. He relies almost entirely on digital examination for the purpose of diagnosis in the first instance. After removal of the greater portion of the growths, the rhinoscope comes into play. Following all the more recent methods, the author recommends removal of the growths from the mouth, and uses for this purpose a ring-shaped knife, attached to a stem suitably bent. With this instrument, the author removes all the growths at one sitting, and subsequently cauterises the naso-pharynx about six times with solid nitrate of silver, at intervals of five or six days. The removal of the growths is frequently followed by considerable temporary swelling, which renders the application of the nasal douche impossible, and great care is therefore necessary under these circumstances to prevent the fluid from entering the ears. The author has never seen any bad symptoms in the ears result from the operation. He attributes to Voltolini the merit of having convinced otologists of the necessity of being familiar with the use of the rhinoscope. E. CRESSWELL BABER, M.B.

5. *Paterson on Imperforate Anus.*—The author (*Gazeta Médica da Bahia*, No. 12, 1879) suggests a mode of treating this abnormal condition which, in his hands, has frequently proved efficacious.

He narrates a case, which he treated forty-eight hours after birth, and in which there was absolute occlusion of the intestine, accompanied by great prostration. The anus was apparently healthy, and two large clysters had already been administered and retained. On making a digital examination, he found a large *cul-de-sac* occupying the lower portion of the rectum, but no peristaltic action was perceptible by the finger at any spot. He passed an exploratory trocar in the normal direction of the intestine, and finding the point of the instrument free, he guided parallel to it a small dressing forceps. When this had penetrated the septum, the blades were divaricated, and in this way a passage was gradually and carefully made through the opposing tissue. Some dark-coloured meconium escaped. Dr. Paterson then introduced a larger forceps, and withdrew it in the same way as the other. This was followed by a still greater discharge of meconium. The little finger was now passed into the intestine, and the occluding membrane, which was very dense, was dilated and destroyed. The result was successful.

6. *Marcacci on the Removal of a Neoplasm from the Bladder.*—Professor Marcacci relates a case (*L'Imparziale*, February 1880) in which he illuminated the interior of the bladder by magnesium light, the rays being projected into the interior of the viscus by a concave mirror. By this means he was enabled to diagnose the existence of a neoplasm, which proved, on examination, to be villous in structure. The bladder was laid open anteriorly throughout its whole extent by a suprapubic incision, the peritoneum being necessarily divided. Through this large opening, the growth was removed in fragments. At the time of writing, nine days after the operation, there had been no untoward symptoms, and the case promised most favourably.

7. *Lo Grasso on the Results obtained by Antiseptic Treatment in Amputations.*—In a carefully written article (*Gazzetta Clinica de Palermo*, Anno xii) Dr. Lo Grasso gives the results obtained by the use of antiseptic treatment in all the amputations practised during the last three years at the Surgical Clinic in Palermo. The cases (thirty-six) are given in considerable detail, and are carefully analysed. Primary amputation for severe injuries, either of the bones or soft parts, was performed fifteen times, with two deaths; in one of these cases, however, the patient was already moribund when the operation was performed. In a total of thirty-six cases of amputation, of which twenty-one were on account of injuries, fourteen on account of disease, and one a double amputation, the total deaths amounted to two. The article is a very valuable and complete statement of the result obtained by the antiseptic treatment in Palermo during the last three years.

8. *Creus on a Case of Urethro-Perineal Fistula.*—In this case (*El Genio Médico-Quirúrgico*, No. 1280) the lesion had been caused by extravasation of urine, which, in spite of active treatment, had induced extensive sloughing of the perinæum and scrotum. On admission, half of the posterior portion of the scrotum and the whole of the perinæum were occupied by cicatricial tissue. The superior wall of the urethra was visible, and there was an actual loss of substance over a space of twenty millimètres in length by nine in breadth. The orifice of the urethra terminated in a *cul-de-sac*, and the urine escaped through the large aperture caused by the loss of tissue. Owing to the extent of space to be covered, a plastic operation appeared to be the only feasible

method of treatment, and this was accordingly determined upon. A flap was dissected on the left of the margin of the urethral opening, 35 millimètres (1.4 inches) in length, and 15 millimètres (0.6 inch) in breadth; on the right a similar flap was made, but here it measured 55 millimètres by 23 (2.2 inches by 0.9 inches). The parts were brought together with metallic sutures, covered with antiseptic gauze, and a catheter introduced. All proceeded favourably for the first few days, until the patient himself removed the catheter, and by great expulsive efforts succeeded in forcing a stream of urine through the old opening, thereby completely destroying the skin-graft. He was then discharged from hospital; but on his again presenting himself the author determined to make another effort, following the same method as before, the only difference being that he first put the patient through a course of sounding, in order to accustom the urethra to the presence of the catheter. The result was most satisfactory, the loss of substance being completely repaired, and the urethra restored throughout its whole length to its normal functions. [This case is interesting, not only from the large size of the flaps, which, as the sequel showed, retained their vitality unimpaired, but also as demonstrating the necessity of making sure that the patient can tolerate the presence of a catheter in the urethra, before commencing any operative procedures.—*Rep.*]

9. *Caselli on Extirpation of the Larynx, Pharynx, Base of the Tongue, etc.*—The successful performance of this operation by Prof. Caselli in Italy, has already been noticed (LONDON MEDICAL RECORD, April 1880). In the number of the *Bulletino delle Scienze Mediche* for February 1880, however, the operator himself gives a much fuller account of the proceeding than has elsewhere appeared, and illustrates by some excellent woodcuts the mechanical appliances which eventually rendered signal service to his patient. The article will be valuable for purposes of reference to any surgeon who contemplates undertaking a similar operation. Only a few points in Dr. Caselli's account need be noticed here. He commenced by an incision in the median line over the third, fourth, and fifth rings of the trachea, and at once proceeded to tracheotomy and the insertion of the cannula, by which means the trachea was kept free from blood during the whole operation. He next removed the thyroid gland, and divided the hyoid bone, the œsophagus, etc. Scarcely had this latter been cut across, when the patient suddenly ceased breathing. This, however, was only temporary, and appeared to have been caused by reflex action, the irritation of dividing the œsophagus having been propagated to the stomach, and having caused efforts at vomiting, which in turn fixed the diaphragm. Before removing the tonsils, the operator ligatured the superior pharyngeal artery, thus avoiding a great deal of hæmorrhage. Not more than an ounce and a half of blood was lost during the operation, which lasted three hours and ten minutes. The divided portions of the hyoid bone were united by means of two stout pieces of catgut, and the raw surfaces of the large wound were carefully disinfected under spray, and then brought together with eight silk sutures. The tracheal cannula had two nozzles, over the openings of which gauze, moistened with water, was placed; the œsophageal cannula was also constantly kept closed, to prevent the entrance of air or extraneous substances into the stomach. The author compares his operation with that of Langenbeck in 1875, and, as already stated, adds some ex-

cellent drawings of the mechanical appliances which he afterwards found it advisable to employ.

10. *Ruggi on Transverse Perineal Urethrotomy in Obstinate Strictures.*—Practical surgeons have long been aware of the difficulties attending external urethrotomy in cases of obstinate and old-standing stricture. Dr. Ruggi (*Bulletino delle Scienze Mediche*, February 1880) gives particulars of two cases in which, unable to find the urethra by the ordinary longitudinal incision, he had recourse to a transverse one, with complete success. The first case occurred in an individual, aged 54, whose urethra from the meatus to the bulb was impermeable to the smallest bougie. The author, considering that in such a case Syme's operation would be unsuitable, laid bare the perineal triangle formed by the corpora cavernosa, cut through the soft portions at the base of this triangle, carrying his knife parallel with the fascia media, and taking care not to go sufficiently deep to divide the dorsal vein of the penis. The urethra was at once recognised by the thickness of its walls, though the canal was so contracted as scarcely to allow the smallest-sized instrument to pass into the bladder. In the second case, the author had succeeded in passing a small bougie as far as the seat of the stricture, but here it doubled upon itself, and could not be made to proceed further. The patient was aged fifty-three, and his perineum was the seat of several fistulae. In this case, the perineal incision was crescent-shaped, and measured ten centimètres. The appearance of the parts was so altered that the longitudinal incision did not enable him to find the urethra; this, however, he discovered readily enough on making a large and deep transverse cut. The portion of urethra anterior to the wound was dilated from behind forwards by the urethral dilator, and a gum-elastic catheter with its stylet by this means passed. The perineal fistulae were slit up, and as much of the brawny cicatricial tissue removed as possible. The patient left the hospital, after a stay of two months, perfectly cured. The author gives certain directions for this operation; he makes his external incision, guided by the raphe if this still exists, if not, then as nearly as possible in the position where he thinks it ought to be. Hæmorrhage is best restrained by Péan's hæmostatic forceps. When he considers that the level of the urethra has been reached, he enlarges the margins of his incision, and changes it from a longitudinal into a transverse one. He points out that in this procedure there is little danger of hæmorrhage from either veins or arteries, inasmuch as the median artery of the perineum, the arteries of the bulb, and other vessels, have, in the majority of cases, been obliterated by the periurethral infiltration. Should hæmorrhage, however, supervene, the temporary application of the hæmostatic forceps will always be found sufficient to check it.

11. *Harraez on a Rare Form of Spermatorrhœa.*—Dr. Enrique Harraez relates a curious case of spermatorrhœa which lately came under his treatment (*El Siglo Medico*, April 18th, 1880). The patient was 24 years of age, in apparently good health, so far as regarded any actual pathological deviation. The family history was also good, though various members upon the mother's side had at various times exhibited symptoms of a herpetic diathesis. In Dr. Harraez' case, the most curious feature was that spermatozoa appeared in the urine only once in the twenty-four hours, namely, in that passed immediately after the mid-day meal. The author satisfied himself by actual observation of

the truth of this statement. If the meal were omitted, the usual appearance in the urine, namely, that of a thick, ropy, white deposit, did not occur; and it could also be caused to disappear by pressure over the prostatic portion of the urethra during the act of micturition, but if this pressure were relaxed it would at once return. The diagnosis lay between undue relaxation with patency of the spermatic ducts, or increased tonicities of the vesiculæ seminales. During a period of six months, treatment with bromide of potassium, opium, and camphor, followed up by belladonna, ergot, strychnine, and electricity, was practised without any success. Troussseau's prostatic pad was also tried, but was badly borne by the patient. In these circumstances, the author, recollecting the fact of herpes having occurred in several members of the patient's family, conceived that possibly arsenic might prove of service. This was administered as Fowler's solution, and the use of the prostatic pad was insisted on. At the end of eight days, however, this latter was no longer needed, as all the symptoms had disappeared. This occurred in July 1877, since which time there has been no return whatever of the seminal emissions.

12. *Ocaña on a Case of Hydrocele of the Tunica Vaginalis.*—Dr. Doroteo Ocaña relates a somewhat peculiar case of tardy recovery from the operation for the radical cure of hydrocele (*El Siglo Médico*, March 21, 1880). The patient was aged 69, and had suffered for fourteen years from the affection, which had been treated by three separate tappings without success. The operation for radical cure was then practised, but, owing to a sudden movement on the part of the patient at the moment of injection, nearly four ounces of aromatic wine remained within the vaginal cavity. Very severe inflammation followed, which assumed, eventually, a subacute type, and lasted six months. At this period, the testicle had attained its greatest dimensions; a process of involution then commenced, which occupied a year; after which the cure was complete, both testicles being of the same size and perfectly sound. The author considers that the extreme slowness of cure in this case may be explained partly by the fact of the patient's age, and partly by the fact of such a large quantity of fluid having been unintentionally injected. He considers the case important, as showing that the good effects of the radical operation for hydrocele may not appear for a long time; if they do not, the operation should not at once be set down as having failed.

LITTON FORBES.

13. *Duncan on Chronic Abscess of the Antrum treated by Drainage.*—In the *New York Medical Record*, for April 17th, Dr. W. P. Duncan relates a case of abscess of the antrum with a chronic offensive discharge, which was treated and cured by the use of a drainage-tube. The patient, a lady, aged about 58, came under his care in December 1878. She had always enjoyed moderately good health until 1869, when a constant earache and pain in the upper jaw on the right side occurred. Nothing gave any relief, and the pain was entered as a chronic neuralgia. In 1873, a molar tooth was removed by a dentist, and a fistulous opening was discovered, leading to the antrum, from which a little matter exuded. About this time, a disagreeable matter began to run from the right nostril. The fistula was kept open by strong injections for nine weeks, when it was allowed to close. After this, nothing was done until April 1878, except to syringe the nostril, which constantly discharged pus. A second dentist drew two molar teeth from the upper jaw and opened a large

passage to the antrum. It apparently healed again in two weeks, and the old pain came back. A third dentist being visited, reopened the antrum, probed it, injected iodine, etc., and the discharge increased. He introduced a solid hard India-rubber plug, which he wired to the bicuspid tooth, and directed it to be removed daily and the cavity to be washed. A surgeon advised making, with a stout drill and gouge, a large opening through the alveolar process into the sinus. Dr. Duncan prescribed a wash, a solution of salicylate of soda, and spray to be used daily. After the first visit, he saw nothing of the patient for six weeks, when she returned for treatment. Examination of the antrum with the probe failed to reveal any dead bone. The opening through the alveolar process was about the size of a crow's quill. A small counter-opening into the middle meatus of the nose existed, which he enlarged by the forcible introduction of a strong right-angled probe. Inspection of the nostril by means of a speculum and strong light showed a mass of sticky whitish secretion filling the whole of the right side, and, when this was washed away, a polypoid thickening of the middle turbinate bone appeared. The parts were thoroughly cleansed daily with syringing through the antrum, and an astringent spray was used to relieve the inflammation. After the lapse of a week, Dr. Duncan had constructed a silver tube three-fourths of an inch long and one-twelfth of an inch in diameter, with a flange at one end, to which was soldered an arm, half an inch long, of malleable silver; the sides of the tubes were perforated with holes. He introduced the tube into the antrum, tying the arm to the bicuspid tooth to keep it in position; the object being to establish a permanent drainage, and carry off all the foul pus which before had been allowed to accumulate in the sinus, and to make use of the two openings to thoroughly cleanse the diseased surface. The patient assisted the cure very greatly by taking a mouthful of carbolised water, and forcibly ejecting it through the antrum into the right nares and thence into a vessel. She repeated the operation frequently, and thus prevented pus from collecting in the sinus. Sprays of nitrate of silver, zinc, ferric alum, etc., were used at intervals of a few days. The face-ache and earache at once disappeared, and the discharge gradually grew less; the patient became stronger, and, after fourteen months' treatment, pronounced herself well. She still wore the tube, because it occasioned no inconvenience, and she feared to remove it. Examination of the parts showed them to be in a healthy condition, with the exception of a slight thickening of the mucous membrane of the turbinate bone.

14. *Warren on the Treatment of Irreducible Hernia.*

—At a recent meeting of the Boston Society for Medical Improvement (*Boston Medical and Surgical Journal*, March 18th; and *New York Medical Record*, April 17th), Dr. J. C. Warren read an interesting paper on this subject. He advocated the use of elastic pressure by means of the India-rubber bandage, in addition to rest in the inverted position. The latter part of the method was new, and had been successfully employed by the author in several cases. The foot of the bed is to be so raised that the neck of the hernial sac shall be at a higher level than any portion of the abdominal cavity, and that not only all intra-abdominal pressure may thus be removed, but that gravity can aid in returning the hernial mass into the abdomen. No special medical treatment is found necessary. When the descent of the hernia is comparatively recent and consists of

intestine only, no additional mechanical appliance is needed. When the hernia is of the large and mixed variety, various mechanical appliances must be brought into requisition. Rubber air-cushions and water-bags were recommended where bandaging seemed undesirable, or failed to give satisfactory results. In the discussion which followed the reading of this paper, Dr. Hodges remarked that time and confinement to bed could not be over-estimated, no matter what other adjuvants might be brought into requisition. In 1852, attention was attracted in London to some cases of Mr. Bransby Cooper's, in which, by means of an elastic bandage, an air-bag was bound down upon the irreducible tumour, and the whole apparatus having been further reinforced by buckled webbing straps, the air-bag was inflated through a protruding tube, with the gradual result of elongating the adhesions, inverting the sac, and accomplishing a complete reduction of the hernia.

15. *Morton on a Painful Affection of the Foot.*—In the *American Journal of the Medical Sciences*, January 1876, Dr. T. G. Morton of Philadelphia described an affection hitherto overlooked in surgical literature. He has recently collected and reported a few additional cases (*Surgical Report of the Pennsylvania Hospital*; and *Boston Med. and Surg. Jour.*, April 15). The disease is characterised by intense pain in the joints of the third and fourth metatarsophalangeal joints. Females are not more frequently attacked than males, nor the right foot more than the left. Swelling is seldom present. Most cases result apparently from injury, as a sudden twist of the foot in walking, especially on rough roads. Any exercise which may suddenly displace the toes when confined by a shoe may produce the trouble. Nothing abnormal is to be found in the joint, and, on section through the bone, the parts are seen to be normal. According to Dr. Morton, the cause of the trouble lies in the anatomical relations of the metatarsophalangeal joints. The first, second, and third metatarsophalangeal joints are on a line, but the head of the fourth metatarsal bone lies one-eighth to one-fourth of an inch behind the head of the third, and the head of the fifth lies three-eighths of an inch behind the head of the fourth. The joint of the third is slightly in advance of the joint of the fourth, and the joint of the fifth is considerably behind the joint of the fourth. There is slight lateral motion at the first three metatarsophalangeal articulations; this is greater in the fourth and fifth. Lateral pressure brings the head of the fifth metatarsal bone and the phalanx into direct contact with the fourth metatarsophalangeal articulation, and, to a certain extent, the extremity of the fifth metatarsal rolls above and under the fourth. This gives an opportunity for bruising the digital branch of the external plantar nerve, and it is to this that Dr. Morton ascribes the pain. The treatment should consist of rest at first with the foot elevated, anodyne applications, and perhaps local blood-letting. A narrow flannel bandage can be applied around the foot, to give moderate support to the toes. After the subsidence of the pain, the patient can be allowed to go about, but should wear a shoe with a thick broad sole. A thin-soled shoe is not to be used. The shoe should lace, and, in some cases, should open beyond the irritable joint. There should be no lateral pressure on the toes, so that the foot may spread in walking. In one case, no treatment was of service until the excision of the fourth metatarsophalangeal joint. Perfect recovery with an entirely useful foot resulted.

16. *Macewen on Decalcified Drainage-Tubes.*—These tubes (*British Medical Journal*, March 1880, p. 483) are prepared by steeping chicken-bones for three or four days in dilute hydrochloric acid, then cutting off the ends and removing their interior, and replacing them in the acid for another twenty-four hours. They are kept in carbolic acid solution until required for use. Chicken-bones are superior to crow- or rabbit-bones, according to Dr. Macewen's experience.

17. *Nicholson on Sheet-Lead in treating Ulcers and Wounds.*—During a campaign in South Africa, Dr. Brinsley Nicholson (*Medical Times and Gazette*, March 1880, p. 315) had the misfortune to lose all his instruments and dressings. Thrown upon his own resources, he determined to treat wounds and indolent ulcers with dressings of sheet-lead, and hammered out bullets for this purpose. The results justified the experiment; and he found no cause to regret the loss of the regulation appliances. [In the LONDON MEDICAL RECORD, July 1879, p. 266, will be found a report of Dr. Atkinson's experience of this mode of treatment; a mode suggested by this gentleman in 1865. Pressure, applied by compressed sponge, was highly spoken of by several observers in 1858. *Vide Medical Digest*, section 172-5.—*Rep.*]

18. *Kartulis on Recovery after a fall from Seventy Feet.*—Dr. S. Kartulis relates (*Lancet*, March 1880, p. 486) the case of an English lad, in his eighth year, who, on June 1st, playing on one of the highest houses in Alexandria, fell a distance of seventy-one feet three inches. Both bones of the leg were smashed in the middle; the femur also was fractured three inches above the condyle. On November 15th, after comparatively slight drawbacks, considering the severe accident, the boy was racing with his schoolfellows, and came in third out of six.

19. *Barker on Nephrectomy.*—Mr. Barker (*Lancet*, March 1880, p. 402), in a paper read before the Royal Medical and Chirurgical Society, brought forward twenty-eight cases, home and foreign, in which a kidney had been removed. Fourteen recovered, fourteen died. A careful examination of all cases convinced the author that nephrectomy is not accompanied by any peculiar shock or risks apart from those attending grave operations; also, that it is well borne in many cases; and that, as an operation, it has a most useful future before it, when we have learned to select proper cases, and have better studied the operation itself. In some cases the lumbar, and in others the ventral operation, appears most desirable. In a case at the University College Hospital, operated on December 22nd, 1879, the patient, a woman, aged 21, had long suffered from a movable encephaloid kidney. Constant hæmaturia was sapping her strength, and hence the operation was undertaken. The same incisions, etc., were adopted as in antiseptic ovariectomy, and the diseased organ easily removed. Twenty-four hours later, she was as strong as before the operation; eight hours later she began to get weak, and died at the end of the second day from pulmonary thrombosis. An instructive discussion followed the reading of the paper.

R. NEALE, M.D.

OBSTETRICS AND GYNÆCOLOGY.

RECENT PAPERS.

1. KIDD, G. H. — Erythema Uterinum or Roseola

Uterina. (*Proceedings of the Dublin Obstetrical Society*, Feb. 7, 1880.)

2. LEISHMAN, W. — The Cavity of the Cervix Uteri in the last months of Pregnancy. (*Glasgow Medical Journal*, March 1880.)

3. LUCAS-CHAMPIONNIÈRE. — Porro's Operation. (*La France Médicale*, March 13, 1880.)

4. MACDONALD, ANGUS. — The Treatment of Abortion. (*Edinburgh Medical Journal*, Feb. 1879.)

5. SCHÜCKING. — Contribution to Antiseptic Irrigation in Gynaecology. (*Berliner Klinische Wochenschrift*, March 15, 1880.)

6. SCHWARZ. — Retroversion of the Gravid Uterus, with Rupture of the Bladder. (*Centralblatt für Gynäkologie*, March 13, 1880.)

7. SOMMERBRODT, MAX. — Case of Cæsarean Section during the Agony: Living Child. (*Berliner Klinische Wochenschrift*, Feb. 23, 1880.)

8. UPHAM, W. R. — High Temperature in Puerperal Fever. (*New York Medical Record*, April 3, 1880.)

9. WEBER. — Antisepsis in Lying-in Hospitals. (*Allgemeine Wiener Medicinische Zeitung*, April 20, 1880.)

10. GALABIN, A. S. — On Ovariectomy at the Sixth Month of Pregnancy without interruption to Gestation. (*British Medical Journal*, March 1880, p. 397.)

11. HARRIS, ROBERT. — Statistics of Cæsarean Section. (*British Medical Journal*.)

12. PLAYFAIR, W. S. — On Intrauterine Medication. — (*British Medical Journal*, March 7, 1880.)

13. OWEN, C. J. R. — Rupture of the Fallopian Tube. (*Lancet*, April 1880.)

14. ATTHILL. — Treatment of Post Partum Hæmorrhage by Hot-water Injections. (*Dublin Journal of Medical Science*, Dec. 1879.)

15. CARSON, J. C. L. — On Superfecundation. (*Brit. Medical Journal*, Feb. 1880.)

16. BERRUTTI. — On Porro's Operation. (*Giornale Internazionale delle Scienze Mediche*, nuova serie, anno 1, Fasc. 9, p. 940.)

17. RICCI. — On a Case of Adherent Placenta. (*Il Morgagni*, Sept. 1879.)

1. Kidd on Roseola Uterina. — Dr. George Kidd (*Proceedings of the Obstetrical Society of Dublin*, draws attention to the occurrence of a rash during the first days after labour, which, from its resemblance to scarlatina, frequently gives rise to anxiety in the mind of the attending physician. The history of it is this. On the third, fourth, or fifth day after delivery, attention is drawn to the condition of the skin of the abdomen by the patient's complaining of its being irritable and itchy, which she will probably attribute to the pressure of the binder; or the nurse will say that when applying the binder she has discovered an eruption like that of scarlatina. On making an examination, an eruption is found in broad patches over the abdomen, which, in a few hours, spreads over the whole of this region. In appearance it so closely resembles a miliary scarlatinal eruption, that it could not in this respect be distinguished from it. It will spread over the chest and downwards until it meets the eruption on the abdomen. The eruption begins to disappear about the end of the second or beginning of the third day after its appearance. The clinical interest arises from the resemblance of the eruption to scarlatina and the erythematous stage of small-pox; but the entire absence of fever and constitutional disturbance serves to distinguish it from either of these maladies.

3. Lucas-Championnière on Porro's Operation. — M. Lucas-Championnière showed lately (*La France Médicale*, March 1880) two women who had recovered

after undergoing the Cæsarean operation followed by utero-ovarian extirpation. The first, Elisa A., aged 26, primipara, was admitted into the Maternity, October 27th, 1879. The pelvis was rachitic, her height was 1.25 metre (49.25 inches). The operation was performed November 19th, at the commencement of labour. The membranes were intact. The child, a female, was living, weighing 2,700 grammes. The pedicle was fixed in the lower angle of the abdominal wound. The operation lasted three-fourths of an hour. Lister's precautions were followed. The pedicle fell into the abdomen on the thirteenth day. At the end of six weeks the patient got up. The state at the date of the report was quite satisfactory. On vaginal examination, the cervix was large and mobile. Sexual relations were successfully resumed two and a half months after the operation. The second case was Adèle L., aged 23, admitted into the Necker Hospital, December 30th, 1879. Her height was 1.30 metre (51.2 inches). The pelvis was rachitic. The sacro-pubic diameter was 5 centimètres (not quite two inches). She had been in labour thirty-six hours; the membranes had been ruptured twenty-four hours. The operation was performed the same day. A living male child weighing 3,000 grammes (nearly 6 lbs. and 10 ounces) was removed. The pedicle was secured in the inferior angle of the abdominal wound. Lister's precautions were used; the first dressing was removed on the fifth day; the second on the ninth, on which day only a slight superficial ulceration remained in the abdominal wound. Recovery was perfect in all respects. Two cases by M. Lucas-Championnière were followed by death; the first thirty-six hours, the second twenty-four hours after the operation. Thus, out of four cases two recovered, two died. M. Lucas-Championnière insists on the importance of performing the operation under the strictest antiseptic precautions.

6. Schwarz on Retroversion of the Gravid Womb, with Rupture of the Urinary Bladder, and Death. —

The patient, aged 40, had had four pregnancies, the last three years ago. She had been suffering some weeks with dysuria and dyschezia, and had consulted several medical men. When she was brought into the gynaecological ward at Halle, Dr. Schwarz found her in a critical condition. The abdomen was more enlarged than it would have been at the end of pregnancy. The legs were œdematous. On vaginal examination, the external genitals were found to be distended and œdematous. The pelvis was filled with an even round, elastic tumour. The vaginal portion of the uterus could not be felt. By the rectum the tumour was also clearly made out. The bladder was evacuated and the urine was seen to be opaque, dark, and mixed with blood-corpuscles. The next day, although but little hope was entertained of saving the patient, she was put under the influence of chloroform, and an attempt made to replace the uterus. It was, however, unsuccessful. The os uteri could only be reached by forcibly pushing the finger between the tumour and symphysis pubis. The patient died the same evening. At the necropsy, Professor Ackermann found a large quantity of darkish, opaque, serous fluid in the abdomen. The stomach and small intestines were much distended by flatus. The whole large and small intestines were covered by a fibrinous membrane. The bladder was distended above the pubes to a height of 13 centimètres, and adherent by a piece of exudation of the size of half-a-crown to the neighbouring small intestine. On separating this a rent was discovered in the bladder about 3 centimètres (1.2 inches) in length. The

uterus was firmly wedged under the sacral promontory. It measured 18 centimètres (7.2 inches) in length, and 15 (6 inches) in breadth. The contained embryo was of the male sex, and measured 22 centimètres (8.75 inches). The pregnancy was at about the fourth month and a half. Dr. Schwarz discusses the mode in which the rupture might have occurred in the bladder, but it is mere conjecture. For instance, he imagines an extravasation of blood in the wall of the bladder; this extravasated blood decomposes, a small abscess is formed, and perforation or rupture of the vesical wall results.

7. *Sommerbrodt on Cæsarean Section.*—The patient (*Berliner Klin. Woch.*, Feb. 23) was brought into Frerich's clinic with hemiplegia, aphasia, and tracheal rattling. She was cyanotic; the membranes were ruptured; pulse 160. She was evidently dying, and the operation was performed to save the child. The operation offered no difficulties, and a living child weighing 2,700 grammes (about 8 lbs. and 6 ounces) was delivered. The uterine and abdominal wounds were both carefully united with silk sutures. Whilst the sutures were being applied the mother died. At the necropsy a tumour of the brain, macroscopically a fibro-sarcoma, was found in the left cerebral hemisphere. It had extended into the longitudinal sinus, at which spot was found a recent thrombosis. The remaining organs were normal. Her previous history was that for about a year before the hemiplegia she had weakness and cramp in the right half of the body. This developed into complete hemiplegia.

9. *Weber on Antiseptics in Lying-in Hospitals.*—The antiseptic treatment has been followed by the happiest results in the Lying-in Hospital in Prague; the mortality from puerperal fever being only 0.36 per cent. FANCOURT BARNES, M.D.

10. *Galabin on Ovariectomy during the Sixth Month of Pregnancy without Interruption to Parturition.*—On July 7th, 1879, Dr. Galabin (*British Medical Journ.*, March 13, 1880, p. 397) operated on a patient, aged 29, five months pregnant, and removed a large cyst of the right ovary. The patient eventually recovered very good health, and was delivered of a living female child on October 27th. The case illustrates the wonderful tolerance of the uterus in this patient, since, in most of the recorded cases in which ovariectomy has been performed during pregnancy, labour has followed within a few days.

11. *Harris on Statistics of Cæsarean Section.*—In the *British Medical Journal*, April 1880, p. 508, Dr. Harris contributes an interesting paper upon the results of 118 collated cases, being a continuation of a paper that was published in the *Journal* in 1868. Of the 118, there were 22 recoveries. Ten women were saved out of 68 in the first 120 years, and 12 out of 50 in the last 20 years. An unexpected result is proved by a careful examination of the cases, and this is, that the mortality is not markedly different in those cases where the operation is performed early, and where it is undertaken as a last resource. The whole paper is full of useful and instructive statistics, both as regards the results to the mothers and to the children.

12. *Playfair and others on Intra-uterine Medication.*—The number of the *British Medical Journal* for March 27, 1880, contains several pages on intra-uterine medication; that by Dr. Playfair being the first on the list (p. 467), which is a repetition of the views

he enunciated in 1869, and subsequent years. The great value of carbolic acid, passed to the fundus uteri, by means of suitable probes, is fully confirmed, curing many cases of endometritis that had long resisted other means, the cure being, in many cases, followed by conception, after long sterility. Dr. Battey, at p. 471, speaks highly of the value of carbolic acid saturated with iodine. Dr. Miller, at p. 472, describes an instrument for applying remedies without the necessity of using a speculum.

13. *Owen on Rupture of the Fallopian Tube.*—Mary D., aged 39, married, having four children, began to menstruate January 7th, 1880. January 8th, after reaching about a good deal she suddenly felt something give way in her right side, and almost immediately fainted. Collapse, followed by death, mid-day on the 9th, set in. In the right Fallopian tube, a quarter of an inch from the uterus, an opening of the size of a horse-bean was found, the abdomen being full of thin pale blood, a quart of thick black clots being removed from the right side. [In the *British Medical Journal*, Feb. 1880, p. 209, Dr. Godson reports a case of ruptured Fallopian tube during the menstrual period. Dr. Fisher, in the *Lancet*, July 1879, p. 120, gives the *post mortem* notes of rupture of both Fallopian tubes that occurred during a natural labour.—*Rep.*]

14. *Atthill on the Treatment of Post Partum Hæmorrhage by Hot Water Injections.*—Dr. Atthill, in the Annual Report of the Rotunda Hospital, published in the *Dublin Journal of Medical Science*, December 1879, writes on this subject. 'The use of hot water in the treatment of this complication was very frequently employed both in the hospital and extern maternity, and has proved eminently satisfactory. It has, indeed, much to recommend it, for not only is it a powerful hæmostatic and excitant of uterine contraction, but it is also a general stimulant. If used with ordinary care it is not only harmless but beneficial, by thoroughly cleansing the uterus from clots, portions of membrane, etc., which may have been left in its cavity.' It will not, in Dr. Atthill's opinion, be found altogether to displace the use either of cold water or of the perchloride of iron, but rather to be applicable to a distinct class of cases in which the former of those remedies would be unsuitable, and the latter unnecessary. The method of carrying out the practice is exceedingly simple. An ordinary syphon syringe is the only instrument required, though one with a long vulcanite nozzle, specially constructed for vaginal and intra-uterine injection, is now used. This is carried up to the fundus, and, with the usual precautions against injecting air and securing a free return, water is injected as hot as can be conveniently borne by the hand, *i.e.*, about 112 deg. Fahr., in a full stream into the cavity, continuing this until a good contraction is secured, and the water returns quite clear and colourless. The following are some of the results of the experiences in the use of hot water. 1. In cases of sudden and violent hæmorrhage in a strong and plethoric woman, it is better first to use cold. 2. Where, from the prolonged or injudicious use of cold, the patient is found shivering and depressed, the beneficial effect of injecting hot water is rapid and remarkable. 3. In nervous, depressed, and anæmic women, hot water may at once be injected without previously using cold. 4. In cases of abortion where, from uterine inertia, the ovum, although separated from the uterine wall, is wholly or in part retained, the injection of hot water is generally fol-

lowed by most satisfactory results. 5. Where the injection of the perchloride of iron is considered necessary, previous injection of hot water clears the uterus of clots, etc., permitting the fluid to come directly into contact with the bleeding surface, and lessening the chance of septic absorption.

15. *Carson on Superfecundation.*—Dr. J. C. L. Carson (*British Medical Journal*, Feb. 1880, p. 242) reports a case of a woman, aged 40, who was confined of her fifth child, December 22, 1879, being a fortnight before the time she had anticipated. The child was perfectly formed, but small and weak, and died in six hours. The mother did not recover her health or shape, and was supposed to be dying of dropsy. On February 4, 1880, she was delivered of a full grown female child, and mother and child are now both well and strong. R. NEALE, M.D.

16. *Berrutton Porro's Operation.*—Professor Berruti, in the *Giornale Internazionale delle Scienze Mediche*, Fasc. 9, 1879, defends this operation both on moral and surgical grounds. He states that it has now been performed in all twenty-four times, including his own operations, with a constantly decreasing mortality. He holds that it is justifiable in all cases in which, before Porro's time, the Cæsarean section would have been considered unavoidable. Among such cases he enumerates deformities of the pelvis, where the conjugate diameter is less than 6 centimètres, tumours either in the pelvic brim or in the cavity, and generally all conditions which can endanger the life both of the mother and child. In very violent *post partum* hæmorrhage, when every other means has failed, he would resort to it in preference to transfusion of blood. He cannot approve of Müller's suggestion of removing the uterus before extracting the fœtus. In some exceptional cases, abdominal drainage may be useful and advisable; but, as a rule, it is better avoided. The pedicle should be fastened outside the abdomen. The author divides the operation into five stages, each of which he reviews at length: 1. Incision of the abdominal parietes; 2. Incision of the gravid uterus; 3. Extraction of the fœtus; 4. Ligation and amputation of the uterus and ovaries; 5. Dressing, which latter should be strictly antiseptic. The various steps of the operation ought always to be performed under spray, and the necessary instrument should be plunged before use in a 5 per cent. solution of carbolic acid and glycerine.

17. *Ricci on a Case of Adherent Placenta.*—The patient was a primipara, aged 42 (*Il Morgagni*, Sept. 1879), in whom delivery had been facilitated by incision of the perinæum. The placenta was found to be adherent throughout its whole extent to the uterine surface, and, in fact, formed apparently an integral part of the uterus. All attempts at removal proved unavailing, and, the patient's condition being apparently hopeless, were at length abandoned. Symptoms of septic poisoning shortly began to develop themselves, but yielded with remarkable readiness to vaginal injections of carbolic acid. The placenta was expelled piecemeal within twelve days; and, though gangrene subsequently attacked certain portions of the vulva, the patient eventually made a good recovery. The author, in a clinical commentary, attributes this result mainly, if not entirely, to the use of antiseptic injections, and sums up in the following propositions. 1. No attempts should be made to remove an adherent placenta, when it has become evident that such attempts may cause laceration of the uterus. 2. The progress of

septicæmia, even after it has fairly commenced, may be arrested by the timely destruction of the centre of infection. LITTON FORBES.

OPHTHALMOLOGY.

RECENT PAPERS.

1. DERBY, HASKET. — On the Influence on the Refraction of Four Years of College Life. (*Transactions of the American Ophthalmological Society*)
2. KIPP. — On Dacryocystitis in Nursing Infants. (*Ibid*)
3. DYER. — On a Case of Sarcoma of the Conjunctiva. (*Ibid.*)
4. NOYES. — Paresis of the Inferior Oblique Muscle. (*Ibid.*)
5. KNAPP. — On a Case of Tumour of the Optic Nerve. (*Ibid.*)
6. HEYL. — On the Diffusion Circles of Ametropia. (*Ibid.*)
7. NOYES. — On the Statistics of Cataract Extraction. (*Ibid.*)
8. BERLIN. — On Impairment of Vision after Injuries of the Skull. (*Centralblatt für Praktische Augenheilkunde*, Jan. 1880.)
9. DRESCHFELD. — On the Semi-Decussation of the Optic Nerves. (*Ibid.*, Feb. 1880.)
10. BECKER. — On a Case of Congenital Unilateral Total Colour-Blindness. (*Ibid.*)
11. KRETSCHMER. — Neuroparalytic Keratitis and Panophthalmitis after Excision of the Infra-Orbital Nerve. (*Ibid.*)
12. GODO. — On Febrile Herpes of the Cornea. (*Ibid.*)
13. PARENT. — On the Series of Lenses in Refracting Ophthalmoscopes. (*Ibid.*)
14. GALEZOWSKI. — Notes on Cataract. (*Ibid.*)
15. REDARD. — On a Rare Case of Periocular Lymphadenoma. (*Recueil d'Ophthalmologie*, April 1880.)
16. LUCAS-CHAMPIONNIÈRE. — Antiseptic Dressings in Ocular Surgery. (*Ibid.*)
17. CRITCHETT, GEORGE. — On Section of the Eyelid in Gonorrhœal Ophthalmia. (*Lancet*, April 1880.)

1. *Derby on the Influence on the Refraction of Four Years of College Life.*—Dr. Hasket Derby reports (*Transactions of the American Ophthalmological Society*) that in the year 1875, he commenced a systematic examination of the eyes of all students entering the Amherst College. Every facility was afforded by the authorities of the college, and the attendance of the students was made obligatory. The average age of the students at entrance was 21. The examination was by means of test-glasses and types. Half a dioptric was the smallest degree of ametropia taken into account. The new students examined during four successive years numbered 321. These comprised, at the time of entry 45 per cent. emmetropes, 20 per cent. hypermetropes, 35 per cent. myopes. In 1879, the first batch of students, having completed their course of four years, were re-examined. In 10 per cent. of these, a myopia had developed from a previous emmetropia; in 21 per cent. a previous myopia had increased in degree; in 16 per cent. a previous myopia remained unchanged. A full report, when the students of several successive years have been re-examined, is promised.

2. *Kipp on Dacryocystitis in Nursing Infants.*—Of the total number of cases of eye disease registered by Dr. Kipp, of Newark, New Jersey (*Transactions of the American Ophthalmological Society*), 3.6 per cent. suffered from disease of the lachrymal sac. Of these, 10 per cent. were under one year of age. In most of the infants, the disease was observed shortly

after birth; in several, phlegmon of the sac was present; in all of them the secretion was purulent and very abundant. In the infants, the disease was almost always associated with nasal catarrh. In several cases, carious bone was discovered at the first examination. In none of the cases which were probed could a stricture be felt. The following treatment is recommended. Unless the sac can be emptied by slight pressure, the lower canaliculus is slit. The nurse is instructed to evacuate the sac every hour, and to remove the secretion. If there be much swelling of, and secretion from, the Schneiderian membrane, the secretion is removed by means of absorbent cotton wrapped around a dentist's cotton-holder, and a 1 or 2 per cent. solution of nitrate of silver is applied to the swollen membrane by means of a large camel's hair pencil once a day. If the disease do not get well in the course of three or four weeks, Bowman's probes and astringent injections are used, as in adults. Injections into the nose are condemned. They have, even in careful hands, set up purulent inflammation in the middle ear.

3. *Dyer on a Case of Sarcoma of the Conjunctiva.*—The patient was a bright healthy-looking girl, aged 6. The growth was first noticed about May 1878. It assumed the appearance of a mucous polypus. It was of a pinkish colour, soft, slightly lobulated, and flattened between the lids and the globe. It was attached at the outer canthus to the palpebral and ocular conjunctiva by a pedicle about one-fifth of an inch in diameter. It was removed July 8th, but rapidly recurred, and was again removed on Oct. 7th. In November, the child was brought to Dr. Dyer with an extensive recurrence. The whole contents of the orbit were removed, and the cavity cauterised with solid nitrate of silver. Recurrence was again manifest six days later, and a second tumour appeared on the angle of the jaw. Both masses grew rapidly, frequent hæmorrhages set in, and the child died emaciated in May 1879. The tumour of the orbit measured 33 centimètres (13 inches), that of the neck 56 centimètres (22 inches) respectively, in their greatest circumference. The growths were proved by the microscope to be 'recurrent fibroid' or spindle-celled sarcoma. A series of illustrations exhibit the progress of the disease, and present a truly hideous appearance.

4. *Noyes on Paresis of the Inferior Oblique Muscle.*—The writer, having himself been the subject of an accident, causing fracture of the right malar bone, and injury to the inferior oblique muscle, records with precision (*Transactions of the American Ophthalmological Society*) his observations upon the rare form of diplopia thereby induced. The phenomena observed cannot be regarded as typical of the effects of a pure paresis, inasmuch as the muscle itself was doubtless lacerated and infiltrated with blood. Double vision occurred chiefly, though at first not exclusively, above the horizontal line; the false image stood at a higher level than the true; and it was inclined from the perpendicular. So far, the phenomena formed a true counterpart to those which always accompany paresis of the superior oblique, and correspond with those observed by Alf. Graefe in a case of paresis of the inferior oblique (Graefe and Sämisch's *Handbuch*, vol. vi, p. 54). The images were, however, for the most part, crossed instead of homonymous, and the inclination of the false image was such that its upper end leaned away from instead of towards the affected side. In these points, there was a departure from the typical symptoms.

5. *Knapp on a Case of Tumour of the Optic Nerve.*—A 'myxomatous gliosarcoma', occupying the whole of the orbital portion of the nerve, was removed by Dr. Knapp from a boy, aged two (*ibid.*). The eyeball was not removed, but sloughed subsequently. The points of interest in the case are:—the alleged traumatic origin of the tumour; the easy removal of the growth, without dividing any muscle, and without sacrificing the eyeball; the subsequent destruction of the eyeball by sloughing of the cornea from exposure; the extension of the growth into the cranial cavity, causing, in the course of nine months, neuritis descendens.

6. *Heyl on the Diffusion-Circles of Ametropia.*—By a mathematical process, the details of which are given in full (*ibid.*), Heyl calculated the diameters of the diffusion-circles corresponding to certain grades of hypermetropia and myopia in the diagrammatic eye, these grades being supposed to depend on alterations in the length of the axis of the eye. He also calculated the diameters of the diffusion-circles in certain actual eyes possessing these same degrees of hypermetropia and myopia, namely, in the series of eyes the measurements of which were ascertained and published by Mauthner. The conclusions thereby arrived at are interesting and of practical importance. It is shown that, by reason of variations in structure, eyes which possess equal grades of ametropia may have very unequal diffusion circles. This suggests an explanation of the fact that weak grades of hypermetropia produce much more asthenopic trouble in some cases than in others. It bears also on the pathology of strabismus convergens. Take a case in which the grade of hypermetropia and the visual acuteness are equal in the two eyes. In one such case we have a unilateral, in another an alternating squint. Why is this? A difference in the diameter of the diffusion-circles will explain it. Again, given a certain grade of hypermetropia, the existence or non-existence of squint may depend to some extent upon the size of the diffusion-circles; the author refrains, however, from pushing his conclusions so far as this.

7. *Noyes on the Statistics of Cataract Extraction.*—In one table (*ibid.*) are collated all the chief statistics which have been published concerning the results of the flap operation for cataract. The list comprises thirty-five different items, amounting in all to more than 10,000 cases. The average loss, on the whole, is 16.91 per cent. In another table are given in a similar way the published statistics of von Graefe's method. 'No effort has been made to separate the innumerable subdivisions of this operation from each other, whether the wound be at a greater or less distance from the limbus, or be more or less of a flap.' This list includes 110 items, comprising, like the former, more than 10,000 cases. The following is the conclusion arrived at. 'So far as we are now authorised to say, we may regard an average loss of 6 per cent. as what is to be expected in von Graefe's mode of extracting cataract, when done in the most skillful manner.'

8. *Berlin on Impairment of Vision after Injuries of the Skull.*—At the Heidelberg Ophthalmic Congress of 1879, Dr. Berlin (*Centralblatt für Praktische Augenheilkunde*, Jan. 1880) gave his experience on this subject. Visual impairment, following direct violence to the skull, is in the large majority of cases one-sided; it usually occurs immediately after the injury, amounts to a total amaurosis, and is incurable. When the impairment is bilateral, the prognosis is better. The frontal bone, especially the orbital

margin, is commonly the seat of injury; blows on the root of the nose, the malar bone, the temporal region, and the occiput may, however, cause loss of sight. The force causing the injury is generally great. Pronounced cerebral symptoms, e.g., paraplegia, loss of smell or speech, loss of consciousness, have co-existed in all the cases observed except two. The loss of vision is commonly due to fracture of the fragile roof of the orbit, with direct or indirect lesion of the optic nerve. Among 126 cases of fracture of the skull observed by Hölder, in 88 the base was fractured; in 80 of these the fracture extended into the orbit, and in 54 involved the optic foramen; hæmorrhage into the sheath of the optic nerve was discovered in 42 of these latter. These numbers justify the assumption that unilateral impairment of sight in such cases is commonly referable to fracture involving the optic foramen. Bilateral impairment of sight is due as a rule to fracture of the sella Turcica. The curable forms depend probably upon the temporary effects of subvaginal or intracranial hæmorrhage. Neuro-retinitis points to a direct lesion of the optic nerve, or to a subvaginal hæmorrhage; ophthalmoscopic changes are, however, frequently absent at first, simple atrophy appearing later.

9. *Dreschfeld on the Semidecussation of the Optic Nerves.*—Dreschfeld records (*ibid.*, Feb. 1880) two cases in which hemiopia during life, and the *post mortem* observation of a lesion of one optic tract, illustrated the physiological fact of a semidecussation in the commissure. In the first case, a carcinomatous tumour compressed the right optic nerve, and the right half of the chiasma, as well as the motor nerves to the right orbit; the right eye was quite blind, and possessed no power of movement; the left eye possessed normal central vision, but was totally blind as regards the right half of the retina. In the second case, a tuberculous tumour in the right optic thalamus compressed the right tract; the right half of each retina was totally blind.

10. *Becker on a Case of Congenital Unilateral Total Colour-Blindness.*—The case is reported in the *Centralblatt für Praktische Heilkunde*. The difference between the two eyes was noticed by the child itself when three years old. At seventeen years of age, the girl was very completely examined as to the retinal function by Becker and Kirchoff. Acuity of vision was normal in both eyes. The right recognised all shades of colour correctly, the left recognised none, but saw all as shades of grey. The perception of solidity in stereoscopic pictures was present in high degree. The perception of differences of illumination was a little inferior in the colour-blind to that in the normal eye. One maternal uncle was an artist, reputed as a colourist; another was colour-blind.

11. *Kretschmer on Neuro-paralytic Keratitis and Panophthalmitis after Excision of the Infra-orbital Nerve.*—This case is also from the above-named journal, for March 1880. A man, aged 67, had suffered a long time from neuralgia of the fifth nerve. Other means having failed, he consented to operation. The nerve was exposed at the infra-orbital foramen, drawn out, and a portion excised; the central cut end was cauterised. Rapid ulceration of the corneæ, and panophthalmitis, with profuse and prolonged suppuration, followed. Kretschmer offers two possible explanations of the disaster—either a centripetal degeneration travelling from the cut end of the nerve to the Gasserian ganglion, and thence to the ciliary ganglion, or a direct effect upon the ciliary

ganglion through the floor of the orbit. [Charcot has urged that the ocular lesions, which sometimes follow division of fibres of the fifth nerve, are not paralytic, but irritative in character—a more satisfactory explanation of this case.—*Rep.*]

PRIESTLEY SMITH.

12. *Godo on Febrile Herpes of the Cornea.*—Dr. Godo (*Recueil d'Ophthalmologie*, April 1880) considers that four distinct periods can be shown to exist in the evolution of the acute form of herpes, viz., 1. The period of invasion, characterised by pyrexia and general symptoms; 2. The eruptive period, marked by the apparition of a more or less copious crop of vesicles; 3. The period of suppuration, in which the limpid contents of the vesicles become sero-purulent; 4. A period of desquamation and ulceration, the vesico-pustules bursting, and leaving small and superficial ulcerations. These stages in the progress of the affection he illustrates by some cases which he has met with in practice, and which he considers establish sufficiently the intimate connection existing between febrile herpes in general, and febrile herpes of the cornea in particular. According to the author, the latter affection is a direct derivative of the former, or rather a particular and merely localised manifestation of it. Herpes of the cornea may also be symptomatic of other morbid conditions, such as pneumonia; in which case, it may occur either simply or together with herpes labialis and nasalis. Herpes of the cornea is often also correlated with the appearance of the mensural nixus; in one case cited, the patient had had an herpetic eruption on the eyelids, together with all the subjective symptoms of the affection, at each monthly period for the last two years. Dr. Godo has also seen corneal herpes appear upon the sudden cessation of lactation, and has further seen cases, of which three are given in full, in which it appeared coincidentally with the advent of intermittent fever. According to Verneuil, there is a herpes of traumatic origin, and of this Dr. Godo cites a peculiarly typical example. The case was that of a carpenter who, after amputation of one of his limbs, suffered about the seventh week after the operation from a very severe attack of corneal herpes, accompanied by the usual constitutional disturbance. Two months later, an abscess appeared in the groin of the amputated leg, and again the same constitutional phenomena supervened, and were followed by herpes. Subsequently, a second abscess appeared at the seat of the former one, and was in turn followed by identical symptoms and consequences. This triple manifestation can scarcely be considered purely accidental; it must be interpreted as a case of traumatic herpes *à distance*. This form, whenever met with, will always be consecutive to a train of general symptoms and phenomena very similar to those of febrile herpes.

13. *Parent on the Series of Lenses in Refracting Ophthalmoscopes.*—Dr. Parent commences (*Recueil d'Ophthalmologie*, April 1880) by enumerating the lenses in the most commonly used ophthalmoscopes, such as those of Landolt, Badal, Galezowski, etc. He shows, by a comparison of the focal lengths of the lenses produced by the superposition of two glasses, that, while for the weaker lenses of the series these focal distances are considerable and appreciable, such is not the case for the stronger ones. A lens of ten dioptrics may be sufficient to estimate most cases of hypermetropia with, but, for myopia, every ophthalmoscope ought to be furnished with one — 20D, by which the author believes a myopia of — 15D

can always be measured. He points out that a glass of -10 D held at 20 millimètres from the anterior focus of the eye will, in reality, overcome a myopia of -8 D only, and is, therefore, manifestly insufficient. The series which he has adopted in his ophthalmoscope is the following: the first disc contains convex from 1 to 6, with 8, 7, 10, and -0.5 D, which are combined with the concave glasses of the second, namely, 1 to 6, and 8, 10, 12, 15, and 20, and $+0.5$ D. The author remarks that the employment of spherical glasses exclusively for diagnosing the amount of astigmatism present in any eye necessarily induces more or less error. Even if this be but half a dioptric in each meridian, it becomes in the result one dioptric. He has, therefore, endeavoured to effect such a combination of lenses as shall enable the observer to see both sets of vessels at once, whereby the difference in refraction can be much more accurately determined. He uses for this purpose a concave mirror of 8 centimètres focal distance, set at an angle of 40° , in order that the observer's line of vision may pass directly through the optical centres of the lenses. The instrument has two grooves; in one the mirror is placed, in the other a ring, 38 millimètres in diameter, with a rim of 5 millimètres. Upon this rim is fixed eccentrically a disc containing ten concave cylindrical lenses, commencing with -0.5 D, and terminating with -6 D. By moving the ring, any required inclination can be given to the axis of the contained glasses. To measure the amount of astigmatism in a given case, it is necessary to find the direction of the principal meridians by means of a clock-face dial; this done, the strongest glass with which the vessels can be distinctly seen is the measure of hypermetropia in that meridian; the meridian at right angles to this is the one of greatest curvature, and, therefore, in order to make its focus coincide with that of the least, the concave cylinders (having their axes parallel to the meridian of least curvature) must be in succession tried. When a cylindrical lens has been found which, in combination with the spherical already used, shows all the vessels equally clearly, the difference between the two lenses will be the measure of the astigmatism. The author has had an ophthalmoscope of this type constructed for him by Roulot of Paris.

14. *Galezowski on Cataract.*—From time to time cases have occurred in which presbyopic or hypermetropic persons, threatened with cataract, or in whom the evolution of a cataract has already made some progress, suddenly find they can see better with the naked eye than with glasses. The refractive power of the eye has increased to such a degree that convex glasses are no longer acceptable for near objects, while, for distance, the eye has become slightly myopic. In this fact, Dr. Galezowski (*Recueil d'Ophthalmologie*) finds a strong confirmation of Helmholtz's theory of accommodation; namely, that it depends upon a contraction of the ciliary muscle, by which the posterior portion of the zonule of Zinn is advanced towards the crystalline lens, which, owing to the relaxation of tension thus caused, tends to become thicker. In the case of presbyopic persons who at some subsequent period have become myopic, the lens has lost its elasticity and is no longer sensible to the relaxation of the zonule. It contracts upon itself, and assumes permanently the convexity which it had formerly only during act of accommodation. As regards the etiology of pyramidal cataracts, he believes that, in some cases, they result from an alteration in the epithelium of the lens capsule; in others, from inflammation of

the cornea or capsule during intra-uterine life. For this latter cause to be efficacious, it is necessary that a corneal ulcer should have remained for a certain time in contact with the capsule. Ulceration or inflammation of the cornea *in utero* may actually take place, and yet, complete cicatrization having been established, no traces of either process will remain.

15. *Redard on a Case of Periocular Lymphadenoma.*—Redard considers this case unique in ophthalmic literature (*Recueil d'Ophthalmologie*, April 1880). The patient noticed as the earliest symptom a slight tumefaction and redness of the conjunctiva, which within two months became granular and prominent, and slightly discharged. Exophthalmos later on became very marked; the conjunctiva, as far as the corneal limbus, ulcerated; vision was abolished; and it was now evident that the whole globe was surrounded by a rapidly growing tumour. Removal of the contents of the orbit was performed successfully. On making a microscopical examination of the morbid growth, it presented the following appearances. The cells were spherical, about 12 micromillimètres (12-25,000th of an inch) in diameter, consisting of a nucleus surrounded by a thin layer of protoplasm. In addition to these, however, the stroma of the tumour was composed of a plexus of conjunctival tissue fibres, alternating with blood-vessels. These fibrillæ were very fine, and were covered at the points where they interlaced by flat conjunctival cells. These fibres formed the meshes, within which the spherical cells above mentioned were contained. The smaller vessels were formed of a thin conjunctival membrane, into which the fibrillæ of the plexus were inserted in such a way that, when the vessel was isolated and examined apart, it appeared as if covered with small spines; these represented the broken points of attachment of the fibrillæ. This appearance is characteristic, according to the author, of lymphadenoma as distinguished from small-celled sarcoma. In the latter, the vessels are essentially embryonic, the blood is in direct contact with the elements of the nerve-tissue, and there is no reticulum of fibre; in the former, this reticulum exists, and its component fibres are inserted into the walls proper of vessels peculiar to itself. In this case, the absence of embryonic vessels shows the growth not to be a small-celled sarcoma, while the actual cell-forms, and the existence of a plexus of characteristic vessels, show it to be a rare case of periocular lymphadenoma, developed in the serous cavities surrounding the eyeball.

16. *Lucas-Championnière on Antiseptic Dressings in Ocular Surgery.*—Dr. Lucas-Championnière (*Recueil d'Ophthalmologie*, April 1880) sums up his essay on this subject by the following general conclusions. All antiseptic precautionary measures, apart from the immediate operation, such as cleansing of instruments, hands, etc., should be carried out by means of the stronger solutions of carbolic acid; but these are not suitable in operations upon the transparent parts of the eye. A strong solution of boracic acid is, however, generally well borne, as also pulverisation, provided the spray apparatus be held at a sufficient distance. As a means of occlusion, the author prefers lint soaked in boracic acid in preference to carbolised gauze. Operations on the conjunctiva necessitate the same precautions, so far as concerns not irritating the eye by a strong antiseptic. If, however, the eye be destroyed, as in most of the cases which call for enucleation, or if the operation be a plastic one, carbolic acid is, perhaps, the most preferable disinfectant. The

author, after enucleation, is accustomed to wash out the orbital cavity freely with a strong solution of the acid, and then to apply borated dressings over the lids, but nothing between them. For small wounds on the eyelids or ciliary margins, he advocates the use of borated ointment, spread on lint, the whole covered either with some impenetrable material, or with a layer of lint soaked in boracic acid, according as a moist or dry dressing is desired. On the whole, vaseline and boracic acid are the antiseptics of most use in ocular surgery. [See also on this subject, LONDON MEDICAL RECORD, Jan. 15th, 1880, p. 28.]

LITTON FORBES.

17. *Critchett on Section of the Eyelid in Gonorrhæal Ophthalmia.*—This case, by Mr. Critchett, is reported in the *Lancet*, April 1880. In May 1880, a child, aged 2½ years, was brought to the hospital with softening acute gonorrhæal inflammation of the left eye. Judging from appearances, all hopes of saving the eye by ordinary modes of treatment seemed hopeless. Mr. George Critchett determined to divide the eyelid so as to be able to apply remedies effectually. A director was passed under the lid, which was then divided perpendicularly as far as the margin of the eyebrow. The two angles of the divided tarsus were fixed by means of fine sutures to the skin of the eyebrow. The usual treatment was then carried out, and, in six weeks, a perfect cure resulted. The divided lid was then united by fine sutures, and but little deformity remained. Dr. C. B. Taylor, in the *Medical Times and Gazette*, April 1876, p. 360, drew attention to the beneficial results accruing from division of the outer canthus in gonorrhæal ophthalmia, in order to expose the inflamed conjunctiva, and so to relieve pressure and to apply efficiently the suitable remedies, without which loss of the eye must necessarily follow. In a letter to the reporter, Mr. Wilkes of Salisbury states that Mr. G. R. Tatum in 1849 adopted this operation in bad cases of granular lids.—*Rep.*] R. NEALE, M.D.

OTOLOGY.

RECENT PAPERS.

1. DE LACHARRIÈRE, L.—Deafness: its Degrees and Causes, and the Different Means recently advocated for Diminishing its Inconveniences. (*Annales des Maladies de l'Oreille, du Larynx, etc.*, Feb. 1880.)
2. KNAPP, H.—A Case of Supernumerary Auricle of Rudimentary Development. (*Transactions of the American Otological Society*, vol. ii, Part 3.)
3. MOOS, S.—Traumatic Movable Hæmatoma of the Membrana Tympani. (*Archives of Otolaryngology*, Dec. 1879.)
4. HOWE, L.—On the Use of Permanganate of Potassa in Chronic Otorrhœa. (*Transactions of the American Otological Society*, vol. ii, Part 3.)
5. BLAKE, C. J.—Facial Paralysis Accompanying Purulent Inflammation. (*Ibid.*)
6. BABER, CRESSWELL.—Case of Tympanic Abscess; Paracentesis after Eighteen Days: Recovery. (*St. George's Hospital Reports*, vol. ix, 1879.)
7. RUMBOLD, T. F., and OTHERS.—Discussion on Ear-ache caused by Acute Catarrh of the Middle Ear. (*St. Louis Medical and Surgical Journal*, Feb. 5, 1880.)
8. KNAPP, H.—Trephining the Mastoid Process in a Case of Acute Suppurative Otitis Media. (*Transactions of the American Otological Society*, vol. ii.)
9. HARTMANN, A.—On Sclerosis of the Mastoid Process. (*Archives of Otolaryngology*, vol. viii.)
10. TURNBULL, LAURENCE.—The Mastoid Region and its Diseases. (*St. Louis Medical and Surgical Journal*, Feb. 20, 1880.)

11. KNAPP, H.—A Case of Parotidian and Intra-tympanic Malignant Tumour. (*Archives of Otolaryngology*, vol. viii, 4.)
12. POOLEY, T. R.—Contribution to the Pathology of the Temporal Bone. (*Transactions of the American Otological Society*, vol. ii, Part 3.)
13. RISCHAWY, W.—Chronic Suppuration in the Tympanum. (*Wiener Mediz. Blätter*, No. 8, 1880.)
14. BING, A.—Acute Unilateral Deafness: Recovery. (*Wiener Mediz. Wochenschr.*, No. 11, 1880.)
15. NOYES, H. D.—Menière's Disease following Parotitis. (*Transactions of the American Otological Society*, vol. ii, Part 3.)
16. ROOSA, D. B. ST. JOHN.—Syphilitic Diseases of the Internal Ear. (*Archives of Otolaryngology*, vol. viii, Part 4.)
17. BURNETT, S. M.—Objective Aural Sounds, produced by Voluntary Contraction of the Tubal Muscles. (*Ibid.*)
18. ZAUFAL.—The Nitze-Leiter Endoscope for the Examination of the Ear, Nose, and Naso-Pharynx. (*Praeger Mediz. Wochenschr.*, Feb. 11, 1880.)
19. TURNBULL, CHAS. S.—The Audiphone and Dentaphone. (*Archives of Otolaryngology*, vol. viii, Part 4.)
20. BARATOUX.—A New Polypotome. (*Annales des Maladies de l'Oreille, du Larynx, etc.*, Feb. 1880.)

1. *Lacharrière on Deafness.*—In a long paper (*Annales des Malad. de l'Oreille, du Larynx, etc.*, Feb. 1880) the author details first the different means which have been employed for testing the hearing power (all of which he finds unsatisfactory). He then describes, somewhat discursively, the diseases (general and local) which give rise to deafness in its varying degrees. We note the following points: the auricle not being normal in man, binauricular audition is, according to the author, absolutely necessary to appreciate the *direction* of sounds. The author has observed this want of appreciation of the direction of sounds in many persons afflicted with one-sided deafness; especially is this the case in sportsmen. Paracusis Willisiana (or hearing better in a vibrating medium) the author considers pathognomonic of ankylosis of the ossicles. He has frequently observed deafness as a precursor of tubercular meningitis. Hæmorrhage into the tympanic cavity he treats by evacuation through the membrane. He has several times seen it as the result of plugging the nose for epistaxis. In conclusion, the author gives his experience with the audiphone, having tried both Rhodes' and Colladon's instruments. With a certain number of deaf-mutes (who still retained the power of hearing the voice, although they could not distinguish words by the ear) the results with the audiphone were entirely negative. Amongst persons partially deaf, the results were almost equally disappointing. One young lady, suffering from ankylosis of the ossicles (whom the author thought an especially favourable case for the instrument), could hear words spoken at a distance of 5 or 6 centimètres (about 2 or 2½ inches) from the audiphone, rather below and in front of it, which she was unable to without the instrument. The author is experimenting with the toy-telephone, and suggests one of large size as a fixed instrument to enable deaf persons to hear in places of public meeting.

2. *Knapp on a Supernumerary Auricle of Rudimentary Development.*—Dr. Knapp describes (*Transactions of American Otological Society*, vol. ii, part 3) the case of a Hebrew, aged 40, with a congenital cutaneous appendix in front of the right ear, which had the appearance of a misshapen auricle, and contained cartilage in its upper and middle portions.

There was no indication of an additional ear-canal. The appendage was excised cleanly, the wound healing without suppuration. The same patient had a congenital dermoid tumour on the outer sclerocorneal region of his left eye, which after removal was found to contain hairs, sebaceous glands, epithelium, etc.

3. *Moos on a Traumatic Movable Hæmatoma of the Membrana Tympani.*—Prof. Moos (*Archives of Otolaryngology*, vol. viii, part 4) describes the case of an engineer-driver who was not seen until two months after the accident (throwing of a bottle against his ear), when an oval ochre-yellow discoloration was found in the posterior superior quadrant of the membrana tympani, which the author considered to be a hæmatoma of the membrane, with its fluid contents absorbed. It was observed to wander backwards, and, on being subsequently punctured, the contents were mostly yellow, homogeneous, clotted and fibrous, with a few crystals of hæmatidin. The labyrinth was also injured in this case, and extravasation of blood, the author thinks, probably took place into it. Nevertheless, contrary to Dr. Moos's previous experience in traumatic lesions of the labyrinth, some improvement in the hearing power took place.

4. *Howe on the Use of Permanganate of Potash in Chronic Otorrhœa.*—Dr. Howe (*Transactions of the American Otological Society*, vol. ii, part 3, p. 359) recommends a solution of permanganate of potash (from 2 to 8 grains to the ounce of water) in otitis media purulenta chronica. A few drops are to be instilled into the ear twice a day (after removal of the discharge by syringing with warm water), and to be allowed to remain in five or ten minutes, if they cause no smarting or burning sensation. If decided inconvenience is produced, the solution is to be washed out sooner.

5. *Blake on Purulent Inflammation of the Middle Ear, accompanied by Facial Paralysis.*—Dr. Blake (*ibid.* p. 353) describes an old case of suppurative inflammation of the middle ear in which super-vention of left facial paralysis, after severe pain in the ear, was followed by a muco-purulent discharge. Examination showed a polypoid growth arising from the posterior portion of the tympanic cavity. Pressure on the growth with a probe, or even pressure upon the region in front of the ear, produced severe vertigo. Under treatment with the galvanic current (commenced six or seven months after the onset of the paralysis) the muscles partly regained their power, and the taste (which had been wanting on the left tip of the tongue) was restored.

6. *Barber on Tympanic Abscess: Paracentesis after Eighteen Days: Recovery.*—The author (*St. George's Hospital Reports*, 1879) describes the following case. The patient, a lady, aged 23, was first seen seventeen days after an attack of violent pain in a previously healthy ear, not attended by discharge. The membrana tympani was swollen, red, and the hammer indistinguishable. As inflation only improved very slightly the hearing for the watch, the membrana tympani was punctured after two days. A considerable quantity of thick pus escaped, and an opening was maintained for ten days. The hearing for the watch improved gradually from half an inch to 28 inches. From a consideration of the symptoms, the author is led to regard the case rather as one of a large interlamellar abscess of the membrana tympani than one of abscess in the tympanic cavity.

7. *Rumbold and others on the Treatment of Earache.*—A discussion on this subject at the St. Louis Medical Society is reported in the *St. Louis Med.*

and Surg. Jour., Feb. 5th, 1880. Dr. T. F. Rumbold led off the discussion by endeavouring to answer the question, 'What will I do if my ear aches again to-night?' Premising that the earache is due to acute inflammation of the tympanum, he recommends as a preventive heat applied locally in the shape of a flannel nightcap, cotton-wool saturated with vaseline, containing carbolic acid (℥j to ʒss) to be placed in the ear, a hot foot-bath to induce perspiration, etc. If these means fail to keep off the pain, five drops of a mixture of equal parts of glycerine and laudanum (from which the alcohol has been driven off by heat) are to be instilled into the ear, the canal being closed with a plug of wool soaked in the same mixture, and half an ordinary brick which has been made hot, and wrapped in three or four thicknesses of wet cloth, is to be applied to the ear over some flannel. Failing these, give an emetic of mustard and common salt, and, lastly, send for a physician, who should make an incision into the membrana tympani. Dr. Kealhofer objected to the laudanum and glycerine, and advised a syphon-douche of 'comfortably hot water'. Dr. J. S. Moore recommended cotton-wool to be placed in the ear, moistened with a mixture of equal parts of laudanum and chloroform, or sulphuric ether. Dr. W. Porter thought that heat only did good where there was neuralgia, not if there were any congestion or effusion. In acute inflammation of the tympanum, he recommended the inhalation night and morning of 10 to 15 drops of chloroform containing crystallised iodine (ʒj to the oz. of chloroform). Dr. Williams, who considered the nocturnal pain due to acute myringitis, thought Dr. Rumbold's treatment excessive, and recommended the instillation of a solution of atropine (gr. j to ʒj in children, and of almost any strength in adults), which he considered a specific for acute myringitis. He did not recommend it, however, when there was perforation of the membrana tympani. Dr. Rumbold, in reply, had feared to place the atropine solution in the hands of patients lest it should produce constitutional effects, as the membrana tympani was often perforate. He believed that nine-tenths of the cases of convulsions in childhood were sequences of earache. Dr. Williams rightly laid stress on the importance of a careful examination of the ear to see if any inflammatory state were present, in the absence of which, he thought, the pain must be attributed to neuralgia.

8. *Knapp on Trephining the Mastoid Process in Acute Suppurative Otitis Media.*—Dr. Knapp relates the following interesting case (*Transactions of the American Otological Society*, vol. ii, part 3). G. V., aged 37, suffering from left acute purulent inflammation of the middle ear, of about four weeks' duration, was found, on examination, to have an abundant quantity of good pus in the meatus, with the membrana tympani largely perforated, and the mucous membrane of the tympanum tumified. The left mastoid and upper cervical region were tender, red, and moderately swollen. He suffered from violent headache, and, as this did not yield to treatment, chiefly steaming, in a few days the author trephined the mastoid process, using Buck's drill and a gouge, the patient being under the influence of ether. A large quantity of fluid pus immediately escaped. Fifteen days after the operation, the membrana tympani was restored, and seventeen days later the wound of the mastoid had permanently healed. A short time after this, the hearing for whisper was found to be normal.

9. *Hartmann on Sclerosis of the Mastoid Process.*

—The author (*Archives of Otolaryngology*, Dec. 1879) distinguishes two varieties of this affection. 1. Idiopathic chronic sclerosis of the mastoid process; which he illustrates by a case in which, during an attack of typhus abdominalis, double otorrhœa came on, followed by violent pain in both ears, 'below the surface of the mastoid process'. When the patient came under observation there was no secretion from the ears, and the pain was intermittent in character, but was not relieved by narcotics. The mastoid region was slightly red, and barely sensitive to pressure. An operation to relieve these pains was abandoned, as the patient was far advanced in phthisis. After death, which occurred two years after the fever, both mastoid processes were found sclerosed. The author concludes that 'sclerosis can appear as an idiopathic disease of the mastoid process after cessation of inflammation of the middle ear, and cause the most violent pains'; and further, that 'practice proves that the symptoms of violent pains in connection with idiopathic sclerosis can be relieved by opening the mastoid process'. 2. Sclerosis as an accompaniment of inflammatory processes in the tympanum. This the author illustrates by several cases, in one of which, in addition to sclerosis of the mastoid process, the antrum and tympanum were occupied by cholesteatomatous masses, and death took place from purulent meningitis and abscess of the brain. The author concludes from this that, in cases of this description, we must not rely upon a spontaneous cure, but must interfere operatively as soon as we suspect cholesteatoma and cannot remove it in the usual way. In the last mentioned case there was a small perforation of the membrana tympani, which was filled with a polypus. The author thinks that, in many cases, where the perforation is not completely stopped up, a sort of filtration may take place, the firmer constituents of the discharge remaining, whilst the fluid constituents continue to escape.

10. *Turnbull on Diseases of the Mastoid Region.*—Dr. L. Turnbull (*St. Louis Med. and Surg. Journal*, February 20th, 1880) divides disease of the mastoid in the adult into four varieties; 1. Inflammation of the external periosteum; 2. Acute inflammation of the lining mucous membrane, followed by accumulation of pus and caries; 3. Chronic subacute inflammation of the mucous membrane with sclerosis or hyperostosis; 4. Periostitis, independent of involvement of the mastoid cells. Amongst numerous other cases, the author relates an interesting one of otitis media purulenta chronica, and accompanied by violent pain, and attacks of oppression and giddiness, in which, failing all other remedies, including Wilde's incision, perforation of the mastoid was recommended and carried out. No pus, but a drachm or two of an aqueous and dark red-coloured fluid, escaped. Erysipelas followed, but the patient made a good recovery and lost the pain. Subsequently, a piece of wood escaped, as the author supposes, from the middle ear.

11. *Knapp on a Parotidian and Intratympanic Malignant Tumour.* This case is described in the *Archives of Otolaryngology*, vol. viii, part 4. In a man, aged 37, six years after the appearance of a parotid tumour, sudden deafness supervened in the ear of the same side; and on examination the tympanic cavity was found occupied by a fleshy and vascular tumour. The membrana tympani was intact, but the nature of the tumour was ascertained by paracentesis. The aural tumour subsequently grew, and filled the meatus. The parotid tumour was removed by operation, but no connection between it and the

intratympanic growth could be traced. The patient died fifteen months after the operation, from a recurrence of the growth. Microscopic examination showed both tumours to be of the same nature, chondro-adenoma or chondro-carcinoma. There was no necropsy, but the author believes that there was a connection between the two growths.

12. *Pooley on the Pathology of the Temporal Bone.*—Dr. Pooley (*Trans. Amer. Otol. Soc.*, vol. ii, part 3) describes two cases illustrating the above. The first is one of fracture of the base of the skull, in which during life there was a free and continuous flow of bloody serum from the ear, and a rupture of the anterior inferior portion of the membrana tympani was observed. The necropsy showed a fissured fracture running from the vertex, directly through the temporal bone and across the base of the skull to the foramen magnum. It was met just above the mastoid process by a shorter one, two inches in length, running backwards and upwards. The chorda tympani was torn through, and the articulation between the malleus and incus cleanly separated, but the internal ear remained uninjured. Case 2 is that of a lady, aged 23, suffering from chronic purulent inflammation of the middle ear, who succumbed with symptoms of severe pain, vertigo, and vomiting. After death, an abscess of the size of a walnut was found in the left hemisphere of the cerebellum, with a well-formed pyogenic membrane. The membrana tympani was perforated, and there was a small purulent cavity above and behind the tympanum, communicating with the latter just behind the membrana tympani. The ossicles were absent, and the internal ear was extensively diseased, but no necrotic path could be traced from it to the cranial cavity.

13. *Rischawy on Two Cases of Suppuration in the Tympanum with fatal Termination.*—Dr. Rischawy of Vienna cites two cases of the above (*Wiener Mediz. Blätter*, No. 8, 1880) in order to show the necessity of an energetic and systematic treatment of diseases of the ear. The first case was that of a man, aged 27, who applied on May 27, 1879, with a history of left otorrhœa since childhood; for five days he had felt very ill, with intense headache, lancinating pains in the left ear and total deafness on that side, the discharge from the ear having much diminished and become mixed with blood. Pale easily bleeding granulations were found in the meatus and tympanum, also œdematous swelling over the mastoid process. In spite of treatment (careful cleansing of the ear with cotton-wool, application of leeches, etc.) the head-symptoms increased, and the patient died on June 5th with clonic spasms of the extremities and well-marked symptoms of cerebral abscess. The necropsy showed chronic purulent inflammation of the middle ear, with periostitis and osteitis of the petrous bone, and an abscess involving the whole of the left temporal lobe of the brain. The second case occurred in a boy, aged 11, the subject of bilateral otorrhœa with complete absence of the tympanic membranes, since infancy, after measles. Suddenly the previously healthy and robust child became rapidly emaciated, the cause of which during the last days of his life was ascertained to be well-marked diabetes mellitus. There was no necropsy; but the author suggests that a connection between the aural suppuration and the diabetes is probable, when it is taken into consideration how near the suppuration in the ear was to those parts, a lesion of which gives rise to sugar in the urine.

14. *Bing on Acute Unilateral Deafness: Recovery.*

—Dr. Bing, formerly assistant at both aural *cliniques* at the University of Vienna, relates the following case (*Wiener Medizin. Wochenschrift*, No. 11, 1880). A servant, aged 47, after exposure to a draught of cold air, when heated, suffered from pain in the ears and tinnitus, accompanied with complete loss of hearing in the right and partial deafness in the left ear. There was no giddiness, nausea, or want of coördination. Both tympanic membranes were shining, grey, and somewhat indrawn. The manubrial vessels were slightly injected on the right side only. The tuning fork on any part of the skull (including the right mastoid and temple) was only heard on the left side, even when the right meatus was closed. The watch and loud speech were not heard at all with the right ear. With the left ear, the watch was heard on contact. Loud speech was heard at 4 mètres (about 13 feet). Catheterising caused air to enter both tympana, but produced no improvement in hearing. There was no evidence of syphilis. A diagnosis of labyrinth-affection with complete deafness on the right side and partial deafness of the left ear was made. The treatment was a blister to the right mastoid region, and internally fifteen grains of iodide of potassium daily. Complete recovery of hearing ensued in the course of several months, an improvement being noticed as early as eight days after the commencement of the treatment. The author attributes the deafness in this case to an acute rheumatic affection of the auditory nerves, analogous to that sometimes seen in the portio dura. He also draws the conclusion that this case renders the prognosis in acute affections of the labyrinth more favourable than it has usually been regarded.

15. *Noyes on Menière's Disease following Parotitis.*—The case is reported in the *Transactions of the American Otological Society*, vol. ii, part 3. After an attack of acute inflammation of both parotid glands, on the seventh or eighth day, the patient, a medical man, aged 38, was seized with dizziness and vomiting, his mind remaining perfectly clear. About the same time tinnitus occurred in the right ear, with loss of hearing, which, after two or three days, became total. Coincident with the ear and head symptoms, the right testicle became inflamed. One month after the parotitis, the right ear on examination was found to be totally deaf. There was also loss of control over the equilibrium. When endeavouring to walk across a room with closed eyes he invariably swerved to the left and almost fell; also, with his feet close together, and eyes closed, he could not stand erect. It appeared that a metastatic inflammation of the right labyrinth had taken place coincidently with the orchitis.

16. *Roosa on Syphilis of the Internal Ear.*—The author, in a well argued paper (*Archives of Otolaryngology*, vol. viii, part 4), controverts Dr. Sexton's views in regard to this subject (see LONDON MEDICAL RECORD, Dec. 15, 1879), and maintains that the cases of sudden extreme deafness occurring in syphilis are due to lesion of the labyrinth. He also considers that, if thoroughly treated at an early period, they are more amenable to treatment than usually supposed.

17. *Burnett on Objective Aural Sounds.*—Dr. Burnett (*Archives of Otolaryngology*, vol. viii, part 4) relates the case of a gentleman, aged 44, who possessed the power of producing at will, by contraction of the muscles of the throat, a sound resembling a fine mucous rale. It was heard at a distance of 50 centimètres (16 feet) from the right ear, not quite so far from the left ear. During the contraction no move-

ment of the tympanic membranes could be observed. Inspection of the faucial orifice of the Eustachian tube showed that its anterior wall remained stationary, whilst its posterior lip was 'moved obliquely forward and upward across the mouth of the tube, the edge sometimes reaching to the anterior border, completely closing it, but usually going only about two-thirds of the distance across'; the uvula was at the same time drawn upward. The author attributes the sound to the separation of the moist surfaces of the mouth of the tube, after they have been brought together by the contraction of the levator palati. Presuming that in this case the action of the muscles is the same as in deglutition, the author is of opinion that it confirms the recent observations of Lucae, who thinks that if the tube is opened at all it is by an internal dilatation simultaneous with the closure of the external orifice, due to simple mechanical inflation, or action of the tensor palati.

19. *Turnbull on the Audiphone and Dentaphone.*—After a description of the now familiar instrument of Rhodes, Dr. Charles S. Turnbull (*Archives of Otolaryngology*, vol. viii, part 4) considers the effect it has in different forms of deafness, and concludes, generally, that to use the audiphone with success, the auditory nerves must be normally sensitive, the hearing power for loud voice, through middle-ear deafness, must be reduced to a minimum, and the upper front teeth must be solid; conditions which, the author adds, are found only in a small proportion of our deaf population. The dentaphone consists of a vibrating diaphragm, connected by means of a silken cord with a wooden toothpiece, which is held between the teeth. According to the author, it answers fully as well as the audiphone for all requirements, and is of course to be used in precisely the same class of cases.

20. *Baratoux on a New Polypotome.*—In this instrument (*Annales des Malad. de l'Oreille, du Larynx, etc.*, Feb. 1880) which is a modification of Wilde's snare, the wire runs in two hollow tubes, which form the branches of a pair of dressing forceps, bent at an obtuse angle to the handles. The sliding rod, with ring attached, to which the ends of the wire are fixed, runs on the right-hand handle of the forceps. When closed, the instrument resembles Wilde's forceps; when open, the wire can be more easily introduced round the base of a growth. The instrument may also be used for nasal polypi, and, with slight modification, for the removal of uterine tumours.

E. CRESSWELL BABER, M.B.

PSYCHOLOGY.

RECENT PAPERS.

1. WERNICKE.—A Case of Tumour of the Brain (*Deutsche Med. Wochenschrift*, Feb. 21, 28, 1880.)
2. VON GELLHORN.—What Results may be expected from a Rational Dietary for the Insane. (*Allg. Zeitschrift für Psychiatrie*, Band xxxvi, Heft 6.)
3. FRÄNKEL.—Mania in a Boy, Six Years of Age. (*Irrenfreund*, Feb. 1880.)
4. SANTOS.—Diabetes and Insanity. (*Annales Méd.-Psychologiques*, Jan. 1880.)
5. COSTA.—Marriage between Blood-Relations. (*Annales Méd.-Psychol.*, Jan. 1880.)
6. SAUCET.—Syphilis and General Paralysis of the Insane. (*Annales Méd.-Psychol.*, Jan. 1880.)
7. THURNAM, F. W.—On the Connection between the Mental State and Inequality of the Pupils in General Paralysis. (*Journal of Mental Science*, April 1880.)

8. COUPLAND, SIDNEY. — Spontaneous Hypnotism. (*Ibid.*)
9. CHAPMAN, T. A. — The Comparative Mortality of Different Classes of Patients in Asylums. (*Ibid.*)
10. MABILLE, H. — Clinical Study of Certain Symptoms of Lypemania. (*Annales Méd.-Psychol.*, March 1880.)
11. CHRISTIAN, M. J. — Remissions in General Paralysis following upon Prolonged Suppuration. (*Ibid.*)
12. DOUTREBENTE, M. — A Case of General Paralysis. (*Ibid.*)
13. RITTI. — Transitory Mania following a Metal Shock. (*Ibid.*)
14. BEARD, G. M. — The Problems of Insanity. (*New York Medical Record*, April 3, 1880.)
15. OBERSTEINER, H. — Chronic Morphinism. (*Brain*, Jan. 1880.)
16. CLARKE, H. — Heredity and Crime in Epileptic Criminals. (*Ibid.*)
17. Mad Artists. (*Journal of Psychological Medicine*, Part i, 1880.)
18. BROWNE, W. A. T. — The Curability of Insanity. (*Ibid.*)
19. GREENWOOD, MAJOR. — Psychology in its Relation to Medicine. (*Ibid.*)
20. MACDONALD, A. E. — On General Paresis. (*Ibid.*)
21. LAWSON, ROBERT. — The Epilepsy of Othello. (*Journal of Mental Science*, April 1880.)
22. HAUNHORST. — Non-Restraint Aphorisms. (*Irrenfreund*, Jan. 1880.)
23. BROSIUS. — More about the Non-Restraint Question. (*Ibid.*, Jan. and Feb., 1880.)
24. BURMAN, J. WILKIE. — On the Separate Care and Special Medical Treatment of Acute and Curable Cases in Asylums. (*Journ. of Mental Science*, Oct. 1879, Jan. 1880.)

1. *Wernicke on a Case of Tumour of the Brain.*—The author relates (*Deutsche Med. Wochenschr.*, Feb. 1880) the case of a girl, aged 19, coming of a somewhat scrofulous family, and whose father had had constitutional syphilis ten years before her birth. Her illness lasted about six months, and ended in recovery. It commenced with headache, vomiting, mental apathy and dulness, general weakness, small and frequent pulse, ophthalmoscopic appearances very much resembling those of Bright's disease. At no time was there any albuminuria. Paralysis of some of the muscles of the eyeball and partial hemiplegia quickly followed. Large doses of iodide of potassium were given, reaching at one time to as much as 90 grains daily. During the treatment, over 1½ lb. of the drug were taken. The symptoms disappeared in the inverse order to that in which they commenced. The author discusses the diagnosis between meningitis and brain-tumours; he decides for the latter, believing the symptoms to have been due to an infiltrated growth, either of tubercular or syphilitic nature, situated in that part of the pons which he has previously pointed out (*Arch. für Psych.*, Band vii) as influencing the abducens muscle of the same side, and the internal rectus of the opposite side. Whether the recovery of the patient proves to be permanent or only temporary, is of course doubtful.

2. *Von Gellhorn on the Diet of the Insane.*—In this paper (*Allgem. Zeitschrift für Psych.*, Band xxxvi, Heft 6) the author examines the statistics of the asylum of which he is superintendent, for the three years during which a revised dietary has been in use, and compares them with those of the first year during which the asylum was open, and when the food was certainly not so satisfactory in quantity or in quality. Dr. Gellhorn deserves great credit for the attention which he has given to the subject of diet, and for his successful effort to introduce a scientific

dietary; but we cannot allow that the statistics of the first year of an asylum, contrasted with those of the three years next following, afford any fair criterion of the results (as to mortality, bodily disease, and mental recovery) to be expected from such a dietary.

4. *Santos on the Relationship of Diabetes to Insanity.*—The author shows (*Annales Méd.-Psychol.*, Jan. 1880) that diabetes sometimes alternates with insanity in the same manner as pulmonary tuberculosis is known to do. In many cases of diabetes, there exists a specific mental disturbance, characterised by depression, and occasionally leading to suicide. The intensity of the symptoms is directly proportionate to the amount of sugar in the urine. Later in the course of the disease, the patient sinks into a state of quiet apathy, talking to himself, but is without delusions; this condition often lasts until death.

5. *Costa on Marriage between Blood-relations.*—The author's conclusions (*Annales Méd.-Psychol.*, Jan. 1880) are as follow. 1. Marriages between blood-relations are not, as such, the causes of degeneracy in the offspring. 2. The relationship of parents favours the inheritance both of healthy and morbid peculiarities. 3. Either perfectly healthy or diseased children may result from such marriages. 4. The latter are the more frequent. 5. The most frequently inherited defects are of a nervous nature. 6. Such marriages are to be unconditionally condemned.

6. *Saucet on Syphilis and General Paralysis.*—The following symptoms are given (*Annales Méd.-Psychol.*, Jan. 1880) as being peculiar to the syphilitic form of general paralysis. The large delusions and self-contentedness of the patient, though common at first, often disappear after a short time, and do not return. Partial paralyses of the muscles of the right eye are comparatively frequent. The course of the disease is very slow, often extending over six or eight years, owing to frequent remissions.

7. *Thurnam on the Significance of Unequal Pupils in General Paralysis.*—By examining notes of about 50 cases, the writer (*Journ. of Mental Science*, April 1880) found that in the cases where the right pupil was the larger, mental depression was present in 64.3 per cent. of the cases, and exaltation in 25 per cent. When the left pupil was the larger, exaltation was noted in 62.5 per cent. of the cases, and depression in 25 per cent. The mental condition in the other cases is reported as 'varying or doubtful'. Premising that contraction of the pupil is due to irritation of the third nerve, and dilatation to its paralysis; also that in general paralysis, cerebral irritation gradually gives place to paralysis, Dr. Thurnam suggests that when the disease commences on the left side of the brain, contraction of the left pupil and mental depression is at first caused; as the disease advances, the right pupil contracts; subsequently dilatation of the left pupil supervenes, owing to paralysis of the third nerve, and is accompanied by exalted ideas. [The author does not tell us that he has observed this sequence of events in any single case.—*Rep.*] In order to account for this supposed train of symptoms, we are asked to 'imagine that cerebration accompanied by mental exaltation takes place habitually in one hemisphere, while ideas attended by depression have their origin in the other'.

8. *Coupland on a Case of Spontaneous Hypnotism.*—Full and most interesting details are given (*Journ. of Mental Science*, April 1880) of this case, which occurred in a boy, aged 12, and would be called by many one of acute mania.

9. *Chapman on the Comparative Mortality of different Classes of the Insane.*—The author gives (*Jour. of Mental Science*, Jan. 1880) a number of new statistics on this subject, which, in the main, support the conclusions which he had previously deduced from much more scanty material, and published in the same *Journal* for April 1877. One or two of these may be noted. Epileptics show a comparatively high mortality, acquired epilepsy being much more fatal than the congenital form; and the remarkable circumstance is distinctly confirmed, that epilepsy is much more fatal in males than in females;—twice as much so in the congenital form, and from three to four times as fatal in the acquired form. In recent curable cases of insanity, the female mortality appears to be more than double that of the males. This is chiefly ascribed to the fact that coarse cerebral disease is much commoner among males than among females; that when it does occur among the latter it is usually of much obscurer type, and consequently was probably often classified at first among the curable cases. The mortality among probably curable cases (6.1 per cent.) is but little greater than that of chronic cases (5 per cent.), and, being below the average mortality of the insane generally, does not swell the mortality of the short residents. The mortality among congenital idiots and imbeciles (non-epileptic) is very little in excess of that of the general population. Among the chronic insane, the mortality increases steadily with age, and diminishes with duration of residence.

10. *Mabille on Pulse, Temperature, etc., in Lypemania.*—The author of this paper (*Annales Méd.-Psychol.*, March 1880) relates in detail long series of observations in twelve cases of lypemania. The conclusions at which he arrives are these. 1. As long as there is no diminution of the functions of locomotion in lypemaniacs, the temperature, pulse, respiration, and arterial tension remain normal. 2. As soon as the hallucinatory condition is sufficiently intense to cause almost complete or relative immobility of the patient, a diminution of the peripheral temperature of the body is noted; the pulse and respiration are less frequent; arterial tension is increased. 3. In certain cases, peripheral vaso-motor troubles are added to the last-named condition. 4. The number of the cardiac pulsations does not bear a direct proportion to the bodily temperature in melancholia; but there is a constant relation between the augmentation of the arterial tension and the diminution of the frequency of the pulse, except in cases of profound anemia, and of '*lypémanie anxieuse*'. The constant increase in arterial tension gives rise to a secondary hypertrophy of the heart. Dr. Mabille promises to give, in the next number of the *Annales*, the result of his researches with regard to the loss of digestive sensibility in certain lypemaniacs.

11. *Christien on Remissions in General Paralysis, due to Prolonged Suppuration.*—The author relates (*Annales Méd.-Psychol.*, March 1880) two cases of general paralysis of the insane, in which all symptoms of mental exaltation, delusions, and motor disturbance, completely disappeared, apparently as a result of prolonged suppuration. Attention was first called to the frequency of this sequence of events by M. Baillarger; many cases have since been published. The author of the present paper deduces from the facts now known the conclusion that, at the commencement of general paralysis, the chief remedies indicated are those acting by means of strong peripheral irritation, e.g., seton in the neck, blisters, cauterisation. It is not alleged that suppuration effects

a permanent cure, but that it often brings about a remission.

12. *Doutrebente on a Case of General Paralysis.*—In this case (*Annales Méd.-Psychol.*, March 1880) the typical symptoms of general paralysis were present for about eight months; at the end of this time a remission took place, and the patient was discharged as recovered. He remained well for nine months, and was then re-admitted, suffering from acute mania. Pneumonia supervened, and ended fatally. At the necropsy, the only intracranial changes observed were quite recent, and not at all severe. Nothing was found which could be referred to the previous attack of general paralysis.

13. *Ritti on a Case of Transitory Mania.*—A girl, aged 18, without hereditary taint, suddenly missed a sum of money which had been entrusted to her care; she at once became acutely maniacal for forty-eight hours. At the end of this time she completely recovered, and remained permanently well.

14. *Beard on the Problems of Insanity.*—In this paper, read before the Medico-Legal Society of New York (*Medical Record*, April 3, 1880) Dr. Beard does good service by calling attention to many points which are apt to be overlooked in the causation, prevention, treatment, etc., of insanity. Some of his views are decidedly original, and may be noted here. Insanity is said to be a barometer of modern civilisation; it can never become common, save when 'united with and reinforced by brain-work and indoor life'. The author considers that the modern brain must carry and endure tenfold more than the ancient, without a correlated increase of carrying and bearing force. Insanity is increasing chiefly among the poor, upon whom civilisation weighs hardest, depriving them of 'the healthful influences of barbarism', without the compensating advantages which the higher classes enjoy. As defects in the present treatment of the insane are mentioned: 1. Neglect of the early stages; 'the insane should be treated before they become insane' (*sic*); 2. Dependence on simple isolation without positive medication; 3. The use of narcotics; 4. The crowding together of curable and incurable cases. As to the causes of insanity, a subtle distinction is drawn between the inventions of thirty or forty years ago, 'the telegraph and the like', which all 'tended to increase the friction of life', and those of the present day, e.g. the telephone, type-writer, palace-cars, elevated railways, which are said to *diminish* the frictions of modern life.

15. *Obersteiner on Chronic Morphinism.*—The author gives (*Brain*, Jan. 1880) an excellent description of 'the demon morphinism', which unfortunately finds its favourite victims among medical men. The chief symptoms are: disinclination to exertion; apathy; loss of memory; restlessness; usually loss of appetite; various pains; hyperæsthesia; and, in pronounced cases, suicidal tendencies. The patients are feeble, emaciated, ashy-grey or livid in complexion, yawn and sneeze much, and their sexual power is impaired or lost. As in alcoholism, a moral deterioration is usually to be noted. While the dose is gradually diminished there are, with the exception of increasing discomfort, seldom any violent symptoms. When, however, the drug is entirely withdrawn, or nearly so, any or all of the following may supervene:—acute diarrhœa, insomnia, great excitement, or even mania, with violence, pains, itching of the skin, perspirations, a feeling of coldness, hallucinations, collapse. The prognosis of

morphinism is seldom good, as relapses commonly occur.

16. *Clarke on Heredity and Crime in Epileptic Criminals.*—A number of most interesting statistics on this subject are given in tabular form in this paper (*Brain*, Jan. 1880). It is shown that a very large proportion of epileptic criminals (some 44 per cent.) are the children of drunken fathers. The author says it is difficult to avoid the conclusion, that both crime and epilepsy may owe their origin to alcoholism in the parents as a predisposing cause. With regard to neuroses in the parents, the writer finds that, both among males and females, epilepsy is more frequent in the mother than in the father, and that the percentage for both parents is higher with the women than it is with the men. This result is exactly the converse of what holds good with respect to drunkenness; there the male parent was found to be affected to a much greater extent than the female, and the per centage for both parents was higher among men than women. The proportion of epileptic and insane relatives is found to be very much greater with criminals than with ordinary epileptics. It has been asserted by Taquet that 'sexual desires show themselves early in children of drunkards, and are associated with absence of moral sense'. The author finds that the convictions for bastardy are three times as numerous among epileptics as among non-epileptics. The interest of this lies in assuming that the epilepsy owes its origin to the hereditary alcoholism which existed in the prisoners. Other tables show that the amount of crime, as indicated by the number of convictions, is greater among epileptics than among ordinary criminals.

18. *Browne on the Curability of Insanity.*—Dr. Browne directs attention (*Jour. of Psychol. Med.*, 1880, part i) to many sources of error in the statistics of recovery from mental disease, as given in the annual reports of asylums. He also mentions many causes which account in great measure for the very various percentages of recoveries reported in different institutions, and by different observers. We are told that, sixty years ago, recoveries were commonly reported as taking place in the proportion of 90,100, and even 110 (!) per cent. It is shown that this merely depended upon the mode of calculation, the actual facts probably differing little from those observed at the present day.

24. *Burman on the Separate Treatment of Acute and Curable Cases in Asylums.*—Dr. Burman strongly recommends (*Jour. of Mental Science*, Oct. and Jan.) that in all asylums a detached hospital should be provided, in which all curable and acute cases should be treated under the direction of a special medical officer, who should have all necessary appliances (baths, electrical room, gymnasium, air-chamber, etc.) ready at hand. Though this arrangement would cause considerable outlay at first, it is alleged that it would prove in the long run economical, by resulting in a larger proportion of cures, and a consequent diminution of the chronic insane population. The hospital would also serve for the detention in *quarantine* of all fresh cases, and a separate portion of it should be provided for the treatment of all cases of communicable disease. In asylums built on the pavilion system, it would only be necessary to set apart one or more blocks, and have them specially fitted up for the purposes proposed.

CHAS. S. W. COBBOLD, M.D.

TOXICOLOGY.

RECENT PAPERS.

1. PIKE. — Aconite Poisoning. (*Lancet*, Jan. 1880, p. 12.)
2. PLOWRIGHT. — Atropine in Fungus Poisoning. (*Lancet*, Dec. 1879, p. 936.)
3. GARLICK. — Arsenical Poisoning from a Red Wall Paper. (*Lancet*, Jan. 1880, p. 12.)
4. LEOIR. — Poisoning by Anilin. (*Gazette des Hôpitaux*, No. 130, 1879.)
5. RAIMONDI, CARLO. — On Slow Poisoning by Arsenic, Mercury, and Lead, as regards more particularly certain changes in the Medulla of the Bones. (*Annali Univ. di Medicina e Chirurgia*, Jan. 1880.)

1. *Pike on Aconite Poisoning.*—In a case related by Dr. Pike (*Lancet*, Jan. 1880, p. 12), a lady took between three and five drachms of aconite liniment (*P. B.*) about five minutes to six A.M. in half a tumbler of water, and retired to bed. In ten minutes, as she felt very unwell, Dr. Pike was called. It being impossible to administer remedies by the mouth, Dr. Pike, at 7 A.M., injected fifteen minims of ether subcutaneously. The effect was scarcely marked, and therefore, in ten minutes, fifteen minims were again injected, followed by twenty minims after the lapse of another ten minutes. Slight improvement followed for a moment; another injection of twenty minims was administered, and this was followed by the happiest results. The pulse improved, and the patient was saved. In the *Lancet*, p. 114, Dr. Burman calls attention to the fact that the inhalation of ether, in this case, would have been followed by a much more speedy result.

2. *Plowright on Atropine in Fungus Poisoning.*—In August 1878, two adults and a child ate some fungi (*Lancet*, December 1879, p. 936). Thirty-six hours subsequently Dr. I. K. Milne of Shipdham, Norfolk, found them suffering from well marked symptoms of irritant poisoning, accompanied by fits of dyspnoea. In one of these fits the child died before he could use atropine. In the other cases, he injected, hypodermically, one-sixtieth of a grain of atropine with remarkable benefit.

3. *Garlick on Arsenical Poisoning from a Red Wall Paper.*—Two children were brought to Dr. Garlick (*Lancet*, Jan. 1880, p. 12) with all the symptoms of arsenical poisoning, and the mother was directed to bring some of the wall paper for analysis. A very thin paper, of very inferior quality, that had been in the sitting-room for two years, consisting of red stars, stamped on a ground of pale yellow and grey brown, yielded a most copious reaction with Marsh's test. The noteworthy point in this case is, that the arsenic existed only in the red parts of the pigment.

R. NEALE, M.D.

4. *Leloir on Poisoning by Anilin.*—Dr. Leloir (*Gaz. des Hôp.*, No. 130, 1879) was led to investigate the toxic action of anilin in consequence of the occurrence of symptoms of poisoning in three patients who were treated locally with solution of hydrochlorate of anilin for psoriasis. The symptoms were those of asphyxia—dyspnoea, cyanosis, considerable lowering of temperature, etc.; the urine contained fuchsin. When two grammes of anilin were injected into the saphenous veins of a dog weighing 18 pounds, the immediate result, after two or three deep inspirations, was opisthotonos, lasting from half a minute to a minute, followed by clonic convulsions of more or less intensity, and of about half an hour's dura-

tion. At the same time, there were profuse salivation and dilatation of the pupil, and complete loss of voluntary motion. The symptoms were reproduced whenever the injection was repeated. A series of weak injections produced death by asphyxia, without convulsions. Further researches have led Dr. Leloir to the conclusion that the poison acts primarily on the blood. After the injection of two grammes into the saphenus vein, the blood in the carotid showed a brown violet colour.

5. *Raimondi on Pathological Results of Slow Poisoning by Arsenic, Mercury, and Lead.*—The author gives an account of a series of experiments which he performed with the above substances on rabbits, and describes at considerable length the pathological results obtained (*Annali Universali di Medicina e Chirurgia*, Jan. 1880). The conclusions at which he arrives may be summed up as follows.

1. Slow poisoning, like chronic disease generally, is followed by certain macroscopic and microscopic changes in the marrow, both of the long and flat bones. 2. These changes vary according to the nature of the poison. In arsenical poisoning, the marrow becomes a lymphoid instead of a fatty substance; in mercurial, congestion is present, with extravasation in both long and flat bones; in chronic saturnine poisoning, a destructive process is set up in the medulla, and is accompanied by analogous changes in the spleen. 3. The morbid changes, though differing in the case of each poison, are not characteristic of the substance actually employed, but rather of the type of morbid action which that substance induces. For instance, arsenic in minute doses, long continued, will give rise to hectic and profound marasmus, and these in turn will bring about the characteristic changes in the marrow of the long bones. The medulla loses its fatty character, and assumes a lymphatic type, the same process simultaneously occurring in the subcutaneous cellular tissue, and in the viscera generally, and so on for the other two poisons mentioned. The paper deserves careful attention, and is a valuable contribution to toxicology. L. FORBES.

REVIEWS.

A Manual of Examination of the Eyes. By Dr. E. LANDOLT, Paris. Translated by Samuel M. Burnett, M.D. Philadelphia: D. G. Brinton. 1879.

This manual is really a composite work, consisting in the union of the author's *Diagnostique des Maladies des Yeux*, with his *Manuel d'Ophthalmoscopie*. It is, however, more than a mere reprint of the two small works just mentioned. It covers a far wider field, and both in plan and in execution is a work of superior originality and completeness. The title perhaps scarcely does it justice. It is no mere students' handbook or compilation of second-hand facts. It is rather a very practical, and, so far as it goes, complete exposition of the relations of ocular physiology to the diagnosis of a large class of eye-affections.

The author's leading idea throughout has evidently been to illustrate and insist upon the practical interdependence of ocular physics and therapeutics. He aims at demonstrating the intimate relationship between certain physical laws and certain pathological conditions. He shows how modern ophthalmology can almost claim to be ranked among the exact sciences, and how little room comparatively there is

in it for laxity of diagnosis or empiricism in treatment. He develops this thesis skilfully and accurately, and with peculiar clearness of expression and fertility of illustration.

The arrangement of the work is as follows. In the earlier lectures the general examination of the eye is treated of, so far as it can be accomplished by mere inspection. Then follows a description and comparison of the various methods of determining the distance between the two eyes, with the practical bearing which this has on the doctrines of strabismus and muscular insufficiency. Another lecture is devoted to the movements of the eyes, more particularly in their relation to squint. Then follow in succession lectures on 'intra-ocular tension', on 'acuteness of vision', on 'refraction and accommodation', on 'the perception of colours', on the 'limits of the visual field and indirect vision', and, lastly, on 'ophthalmoscopy', including the examination of the dioptric media by the oblique method. From the bare enumeration of these headings, it will be seen that Dr. Landolt's lectures range pretty thoroughly over the whole field of strictly scientific, in contradistinction to clinical, ophthalmology. They may be said, indeed, to touch on that portion of modern medicine which more than any other admits of purely scientific treatment, and more than any other demonstrates the interdependence of therapeutics and physiology. As the author well remarks, no general practitioner who leaves the study of such methods exclusively to the specialist can be said to bring to his work all the resources of modern diagnosis.

To our thinking the peculiar merit of this little manual, and one which it possesses in a very high degree, consists in the severe scientific tone which pervades it. It is intended by the author to be placed in the hands of students at the very commencement of their ophthalmological studies, and therefore just at the moment when their minds, perfectly unbiased, are most disposed to receive and retain new facts or impressions. At such a moment, it would seem of the greatest importance to accustom the student to scientific thoroughness and accuracy wherever attainable. This leading purpose is constantly kept in view. If a method of precision can be substituted for one of empiricism, no matter how apparently 'practical' or actually time-honoured the latter may be, the author always insists on doing so. Thus, when speaking of the measurement of squint, which no doubt appears a very simple matter with a strabometer, he shows how nothing less than angular measurements should be accepted. He explains why linear expressions are necessarily incorrect, and then proceeds to describe in detail, and to illustrate with some excellent woodcuts, the best and most expeditious methods of obtaining an angular expression. He explains clearly, and in as few words as possible, the doctrines of strabismus, omitting the purely clinical portion, which can be learned elsewhere. Similarly, when speaking of the field of vision, he is not satisfied to leave his reader with an idea that this may be measured with sufficient accuracy for all 'practical purposes' by shaking a finger alternately in the neighbourhood of one or other of the patient's ears. Nothing less will do than a perfectly correct measurement, by means of an instrument of precision. This leads the author to describe the various perimeters in use, and to explain why in such measurements the arc of a circle should be preferred to a plain surface. He speaks of arcs and tangents when necessary, but is not satisfied until he feels assured that the words convey some real meaning to

his readers. When dealing with refraction, he well remarks that the reproach of difficulty and abstruseness often levelled against it 'is to be explained less by the want of a knowledge of mathematics and physics than by the lack of a clear and accurate exposition of the subject'. He handles this important subject with great perspicacity, and at the same time thoroughness. When dealing with myopia, for example, he discusses its causes and symptoms, and explains clearly the difference between axial and refractive myopia. The optical laws which bear on this affection he treats of in a very intelligible and common sense manner, without a single mathematical formula or expression. Some excellent hints are given for distinguishing between the various forms of myopia as met with in actual practice; the use of the ophthalmometer is explained, and something is said about the index of refraction of the dioptric media generally, with its bearing on this particular form of ametropia. The same thoroughness and scientific accuracy characterises all the remaining portions of the work.

Space does not permit a more extended analysis, which, after all, is by no means necessary. The real and peculiar merit of the book consists in the scientific spirit in which it is written. It is this which makes it a valuable guide to the earnest student, and an excellent introduction to the study of ophthalmology. Its plan is essentially different from that of any other manual with which we are acquainted. Its aim is to educate as well as to instruct; to teach first principles rather than disjointed facts. The task the author undertook was by no means an easy one. It necessitated clear thinking, a wide range of information, and the power of rendering dry details in an interesting and impressive manner. He has succeeded in doing all this very completely, and the result is that, within its limits, this is certainly the most philosophic and most valuable introduction to the study of ophthalmology which has appeared of late years, at any rate in this country.

We wish it were possible to say a word of praise as to the manner in which the translator has executed his share of the work. Truth, however, compels us to say that we have seldom seen a more thoroughly feeble translation of any book. It is full of inaccuracies, abounds in bad grammar and vulgar constructions, and in many instances fails to convey even the sense of the original. It is scarcely possible to read a single page without coming across some gross blunder, some awkward construction, some example of marvellous ignorance or carelessness. Here is a specimen of the sentences to which Dr. Burnett treats his readers: 'the eyes placed at the other extremity sight one after the other by the central fixed needle at the needles beyond, moving the latter until they are covered by the central one.' He uses such expressions as 'have an effect to turn the eye', 'more latterly I have been using', 'put a just estimate on the seat of the foreign body', 'quite' for 'very', 'contracture' for 'contraction', 'in the air' for 'in air', 'trouble' in the sense of disease, and considers that 'optic bed' is a good translation of 'couches optiques'. It is but fair to Dr. Landolt to say that in self defence he has had this translation revised by another hand. A table of errata extending to several pages in length accompanies the work, as at present published, and form an unsightly but extremely necessary appendix to it.

LITTON FORBES.

Thérapeutique Oculaire. Par L. DE WECKER. Leçons Recueillies et Rédigées. Par le Dr. MASSELON. Paris: Octave Doin. 1879.

Ocular Therapeutics. By L. DE WECKER, Paris. Translated and edited by LITTON FORBES, M.D. London: Smith, Elder and Co. 1879.

The professed intention of the author in these lectures is to place before his audience the leading facts of modern ophthalmology, with reference chiefly to the daily routine of medical practice. He addresses himself, therefore, in the main, to practitioners of general medicine, but he does so with a fulness and freshness of matter and style, and with a clinical experience so vast and varied, that his work is in the highest degree interesting also to the specialist. This volume of lectures is, in many respects, a very valuable contribution to ophthalmological literature. In doubtful and difficult points of treatment, in the relative value of various operative procedures, in all that concerns the etiology and natural history of eye-diseases, the author can claim to speak more or less authoritatively. His views on many—indeed, on most points—are such as are now held by the leading ophthalmologists of Europe, among whom, indeed, he himself occupies a high rank. These essays, therefore—for many of the lectures are in reality such—possess peculiar interest, and address themselves to a much larger and more critical audience than that for which they are professedly and primarily intended.

Not a few of the doctrines which the author defends, and which he considers as peculiarly his own, have not, or at least not as yet, met with universal acceptance in this country. For instance, he teaches that catarrhal ophthalmia, be it ever so intense, cannot give rise to true blennorrhœa or purulence. If it did so, no doubt it would cease to be catarrhal and become purulent; and the question is, after all, as much as anything else one of definition. The important point, however, is whether, as the author evidently holds, a purulent conjunctivitis is a special morbid entity differing from a catarrhal, as typhus fever differs from typhoid. But if one fact be better established than another as regards the whole group of these conjunctival inflammations, it is that they cannot be divided off into well-marked and distinct classes. There will always be cases which bridge over the chasm between one class and another, until at last we are driven to conclude that one conjunctival inflammation differs from another rather in degree than in kind. Similarly, the author expresses his views very strongly on the essential difference between croupal and diphtheritic catarrh. We cannot follow him into the controversy, but will simply remark that the question is one of pure pathology, and is not to be so easily and quickly disposed of as he appears to think. Most surgeons will agree with him in holding that gonorrhœal ophthalmia is always the result of direct contagion, and that the hypothesis of its metastatic origin is in the highest degree fanciful. As regards glaucoma, Dr. De Wecker is satisfied in his own mind that it is a disease depending on deficient excretion rather than on hypersecretion. 'In no sense can it be ranked as an inflammation. Increased tension is the great and all-important pathognomic sign. If this be absent, the case cannot be considered, in spite of other symptoms which may be present, as one of genuine glaucoma.'

Under the name 'vernal catarrh', an affection of the conjunctiva is described, which has hitherto

eluded the keen vigilance even of specialists. 'It is essentially a form of phlyctenular conjunctivitis, terminating in the formation of small abscesses. It does not invade the conjunctival limbus—its favourite seat—as a whole, but in patches, which extend and eventually involve the cornea. It attacks by preference children between the ages of eight years and puberty, returning each year with distressing regularity. The small abscesses it induces continue all the summer, but depart in winter, leaving scarcely any traces of themselves, or, at most, a few yellowish stains upon some portions of the conjunctiva. Irritant treatment is not well borne. Even insufflation of calomel can scarcely be ventured on; the author prescribes in these cases arseniate of soda in doses of 1 milligramme, continued during a period of two or three months. When the attack has lost its primitive character, catarrh of the conjunctiva may supervene, in which case, acetate of lead dissolved in equal proportions of water, may be used as a caustic, together with warm lotions of carbolised water.

The affection thus described is probably nothing more than a form of phlyctenular conjunctivitis, modified by constitutional or climatic conditions. To coin a new name for such a condition on what appears to us very insufficient ground, is only to increase if possible the confusion already existing in the classification of conjunctival inflammations. If 'vernal catarrh' is to be regarded as a special and distinct morbid condition, the existence of an autumnal or even hybernal form of the same must sooner or later be recognised.

Turning, however, from the few minor points in which the author differs from most ophthalmologists, and taking these lectures as a whole, their intrinsic value is beyond cavil or contradiction. If their tone is sometimes polemical, and if the arguments used are occasionally those of a special pleader, such blemishes are merely on the surface. The main features of the book are its originality, and the thoroughness with which every subject touched upon is treated. The style is peculiarly fresh and sparkling. Old truths are conveyed in so skilful and pleasant a manner, that they almost seem new. Every chapter is full of suggestive matter. Every precept is illustrated by some well-selected case, gathered from the ample stores of the author's clinical experience. The book is never dull; page after page bristles with practical hints of great value, and with novel applications of old theories. Each affection is discussed, both singly and in its bearings on other pathological conditions, and no little skill has been shown in allotting to each subject its true position in regard to the general body of eye-diseases. While leaving nothing unsaid of any real importance, the author has steered a judicious course between the ponderous erudition of the German works on the one hand, and the meagreness of many English and foreign manuals on the other. As to both the style and general arrangement of the subject matter of these lectures, it would be scarcely possible to desire anything better.

The translator has rendered the idiomatic French of Dr. Masselon into terse, vigorous, and thoroughly readable English. A certain amount of judicious pruning has been practised, and the size of the book thereby reduced, with considerable advantage to the English reader. For the convenience, also, of this latter, all French formulæ have been given in full in the footnotes, with their English official equivalents. Very convenient and useful appendices have been added, on the 'Metric System in Oph-

thalmology', the 'Metric Equivalents of British Weights', and the 'Metric Notation of the Thermometer'. Scattered throughout the book are many excellent woodcuts, some of which are copied from Iwanoff and other authors. The majority, however, are original, and are due to the skilful hand of Dr. Masselon, the French editor of these very able series of lectures.

Montreal General Hospital Reports. Vol. i. Montreal: Dawson Brothers. 1880.

This volume, the first of a series, is one of much and varied interest, but we cannot venture to do more than particularise a few of the articles contained. Dr. Howard records some cases of leucocythæmia, and, in so doing, makes a valuable contribution to a difficult subject. As one of many points which are worth mention, we notice that the author argues, and we think rightly, against the existence of a primary myelogenous leukaemia. Dr. George Ross contributes some interesting medical cases; chief among which may be mentioned one of hypertrophic cirrhosis, one of athetosis, and one of acute spinal paralysis in a young adult. And Dr. Osler, the editor, contributes three papers: one on cardiac abnormalities; another upon fusion of two segments of the semilunar valve, which he, with Dr. Peacock, regards as a congenital malformation; and the third is a voluminous pathological report which contains a selection of interesting records. There is also a valuable statistical review for ten years of the cases of typhoid fever, pneumonia, and acute rheumatism.

The surgical department of this publication includes a few interesting records of cases in full, two or three papers of considerable value, and a series of statistical tables not sufficiently complete to be serviceable. Thus we find the following entry: 'Abscess var., discharged, 34; died, 2.' Considering that the 176 ear cases are divided into 24 different affections, it is obvious that some particulars ought to have been appended concerning the two fatal cases of abscess, which, with the remaining thirty-four cases that recovered, are placed in the class, 'Diseases of the Integumentary System'. In the table of 'Operations', the mortality is not stated; and there is the same want of correct classification and sufficient detail as in the list of diseases under treatment. Fancy such entries as 'Ovariectomy, 1; Lithotomy in male, 3; without a word about the result; and 'Dressings, Incisions, Catheterisations, etc., 1,910'! Either an appendix of details should have been added to these tables, or else reference made to the full accounts of remarkable cases in the rest of the volume. Dr. Bell must, however, be congratulated on the completeness of his statistics, not only of the aural, but also of the ophthalmic out-door practice of his hospital. If, in the next volume, the rest of the statistical department be made equally complete, the value of the reports will be greatly increased.

Of the monographs, that by Dr. Roddick on Lister's method of dressing as practised in the hospital, will probably excite greater interest than the remainder. The mortality at the hospital a few years ago was terrible during the last two years of the old system; all the four cases of amputation of the thigh were fatal, and, of the six patients who underwent amputation of the leg, four died. Within the last two years the mortality after sixty-four major operations (reckoned after the manner of classification adopted by the late Mr. Callender) has been

3.12 per cent. None of the three amputations of the thigh perished; of excisions all recovered, including two of the hip and four of the knee. Here we find, too, that the solitary case of ovariectomy recovered—a fact not noticed in the statistics. Those surgeons in England who follow the opinions of Mr. Savory will lay great stress on the fact, clearly stated in Dr. Roddick's paper, that since 1876 both the sanitary condition of the hospital and its nursing department have been immensely improved. On the other hand, in a case of Syme's amputation under spray, for gangrene of the foot, two sloughy-looking ulcers were left in the heel-flaps; the subsequent occurrence of foetid discharge is hardly to be wondered at, nor is such a case a fair test of antiseptic treatment. Dr. Roddick also contributes a valuable paper on fifteen cases of tumour of the breast, removed antiseptically. The average number of days in hospital after operation was in ten cases 10.5; the highest temperature never exceeded 101 deg. The same surgeon supplies some records of interesting surgical affections. A mechanic, aged 30, was admitted with retropharyngeal abscess from atlo-axial disease. Previous to attempting antiseptic opening of the abscess, a plaster jacket was applied to the head, neck, and shoulders to support the diseased vertebræ; but, ten minutes after the application of the jacket, both pulse and respiration ceased; it was hurriedly cut away, and the patient was revived by artificial respiration, but he died with paralysis and bed-sores two months later. The abscess could not be opened in his lifetime, alarming symptoms recurring whenever he was disturbed.

Canadian surgery has enjoyed success in the operation for removal of entire portions of the rectum, so strongly recommended by Mr. W. H. Cripps in his recent work on cancer of that part of the alimentary canal. In May 1879, Dr. Roddick excised four inches of cancerous gut from a woman, aged 24; at the end of two months she was 'rapidly recovering control over the bowel'. In August 1878, Dr. Fenwick performed this operation on a lady, aged 70, who is still living; this was the first case of excision performed in Canada. Dr. Roddick devotes several pages to synovitis, and remarks that, at the hospital, 'the thermo-cautère has been largely employed for chronic inflammation of all the joints, and invariably with the most gratifying results'. The same gentleman, who deserves great credit for his indefatigable zeal in recording cases at full length, describes a case of occipital meningocele treated by seton, with antiseptic precautions. The patient was a child about six weeks old; it survived the operation a fortnight; but the mother, who suckled it, was unhealthy, and its rectum and vagina ended in a common opening. No brain-symptoms, excepting slight nystagmus, followed the operation. The lateral ventricles were found to be filled with flocculent serum; the abdominal viscera could not be examined, and, from what is stated in the paper, it may be concluded that death was, at the most, not entirely due to the seton.

In the pathological report, Dr. Osler describes a case of cryptorchism in a well made mechanic, aged 38, who died a few hours after operation for a right inguinal hernia. The right testis lay at the internal ring, 'the left high up at the postero-lateral wall of the pelvis'. Both organs were very small; no details are given as to their power of exercising their functions during the patient's lifetime. Dr. Osler also describes a case of tubal gestation. Rigors commenced at the eighth month and a month after con-

finement would have normally been due, the patient discharged foetal bones by the anus. She died a fortnight later, and the sac was found to communicate with the sigmoid flexure. Dr. Buller contributes a paper on eserine in ophthalmic cases, and also a series of reports of the eye department of the hospital, including a remarkable instance of syphilitic condylomata of the eyelid, with bubonic enlargement of the lymphatics over the parotid gland on the affected side. The patient was a man, aged 34, with primary symptoms on the genitals. Under specific treatment he made a good recovery, without impairment of vision.

The volume is a very good one, and we hope before long to see a second; but at the same time we take occasion to remark that such volumes, unless issued at regular intervals, are apt to bury the contributions in an early and unmerited grave. It is proposed by the medical staff to issue a volume at intervals, 'as sufficient material is collected to justify the undertaking'. The material is always at hand in the Montreal General Hospital. The editor and his coadjutors must take care that it is utilised at regular intervals, if it is to benefit the profession, and if the workers are to reap the due reward of their labours.

J. F. GOODHART, M.D.

ALBAN DORAN.

MISCELLANY.

THE CULTIVATION OF CINCHONA.—In the *Scientific American*, Mr. W. Weaver of Bogota has advocated the introduction of cinchona cultivation in North California and Oregon, the mountains of which he considers eminently suitable for the experiment. The natives of the cinchona-producing districts in South America, too, are at last waking up to the importance of replanting cinchonas; and, according to *New Remedies* (quoted from the *American Mail*), 150,000 trees have recently been planted in the States of Cundinamarca and Tolima and Santander.

XANTHIUM SPINOSUM.—The *Pharmaceutical Journal* writes: Some months since, *Xanthium spinosum* was brought forward as a remedy for hydrophobia, but discarded on account of apparently possessing no sensible properties. This plant, however, according to Dr. Bancroft, has escaped from abandoned cotton plantations at Brisbane, and killed cattle which ate it. He states that the animals die with symptoms of pure debility, without convulsions, tetanus, or any excitement. The plant would seem, therefore, to deserve chemical investigation. Dr. Bancroft further states he has found the active principle of *Piper Novæ Hollandiæ* to kill frogs with symptoms of a mixed narcotic and convulsive character.

THE ZOOLOGICAL STATION AT NAPLES.—The following interesting account of this station is reproduced from the *Daily News*. Amid the dark trees in the Villa Nazionale of Naples rises a handsome grey and white building, the Zoological Station and Aquarium, erected, after strenuous exertions and self-sacrifice, at the expense of Professor Anton Dohrn, and first opened to the public on October 1st, 1873. Since that time this institution has made the most encouraging progress, and the service it is able to render to biological science is invaluable. On the east front of the building a small ante-room leads to the great aquarium, about 780 square feet in extent; it is very simple, the walls stained dark grey. On three sides it is lined with the tanks, through which almost all the light in the room falls. The centre space is filled by another set of tanks, which surround and receive light from the inner court of the building, so that the visitor walks round the aquarium, with tanks on each hand. More favourably situated than any other aquarium in the world, there are here to be seen creatures which in England or Germany

could not be preserved alive; and yet this interesting and beautiful room is but a secondary part of the Zoological Station. The great interest of the Station lies in the laboratory on the north side of the first floor. This room, resting on two strong vaults—that over the public aquarium, and that over the northern tanks—is capable of sustaining an immense weight. Besides large ranges of shelves on three of its sides, the centre of the room is filled by the tanks for study. These are arranged in two tiers, each tier consisting of ten tanks, thus affording to twenty zoologists such facility for the preservation and breeding of living specimens as is to be found nowhere else. These tanks are connected with the pumps in the cellars or machine-rooms of the building, which pumps, again, are immediately connected with large pipes running out into the sea; and the water, which generally only circulates, can thus be entirely renewed if necessary. Every morning and evening the whole of the water in the tanks is renewed, while day and night the water from the upper tier flows through narrow pipes into the lower tier, and can also be conducted into a number of little transportable reservoirs, or glass vessels, which are at the disposition of the zoologists for the purpose of isolating eggs, larvæ, or particular animals, and have been found very practical. The study-tanks are lighted from three immense windows to the north and four smaller ones to the south, which last open into the centre court. Below the three northern windows stand six working tables, and between these and the windows there remains space enough to pass, and also, if necessary, for a row of small tanks immediately under the strong light, for the preservation and study of the minutest and most transparent animals. Above the six tables there is a platform, supported on iron pillars, which also bears a similar number of tables, receiving light from the upper portion of the windows, which are twenty feet long. From this platform a few steps lead into a gallery running round the walls and affording access to the upper ranges of shelves, which contain a systematic collection of the fauna of the Gulf of Naples. Leaving this room by a little door leading into an iron way which crosses the inner court, we enter the library on the south side of the building, on the same floor as the laboratory. The library opens into a splendid covered terrace looking out southwards on to the sea and the island of Capri. The walls of the library are decorated by fresco paintings by Hans von Marées and Adolf Hildebrand, which represent the fisher life of Naples, and one end of the room is occupied by a portrait group of the above-named artists, Professor Dohrn, and two friends. The library is richly furnished with scientific works in all languages, as well as the leading scientific journals, and represents the value of 30,000 francs, while the number of books is increased yearly. Besides these principal rooms, the Station contains numerous small studies for the use of zoologists or other scientific students and for the assistants of Professor Dohrn, and a laboratory for the preservation of specimens, which are exported in great quantities to various museums, collections, and private individuals. With the necessary assistance there would be no limit to the usefulness of this branch of the Station. Under the superintendence of Mr. Müller the methods of preservation have reached such perfection that it has been found possible to preserve the most delicate organisms—such as that of the Venus girdle—which one would think would melt away at the slightest touch. The use of a table costs 2,000 francs *per annum*. When any Government, university, or learned society has engaged such a table and given eight days' notice of the arrival of one of its members for the purpose of study, the Station places at the latter's disposition a table fully furnished with the requisite materials. Many other instruments, less frequently needful, are not given out to each student but kept in smaller numbers for general use. Optical instruments are not provided, as it is presumed that the zoologists are already furnished with instruments of their own to which they are accustomed. The small tanks in the laboratory are divided among the gentlemen studying, and the necessary living material is constantly supplied by the superintendent of the fishing, while, when the student leaves the Station he can

take away with him well preserved specimens of the objects on which he is engaged. The library is free to all gentlemen who work in the Station. The laboratories are open at 7 A.M. in summer and 8 A.M. in winter. July and August are considered a time for vacation, but special arrangements can be made to carry on study if desired. The zoologists may accompany the boats of the Station on fishing excursions, take part in the fishing, and learn the use of the implements employed. Any damage done to utensils or instruments is paid by the Station if it does not exceed twenty francs; beyond that sum the damage is paid for by the person causing it. Every quarter of an hour it is the duty of the servant attending on the laboratories to make his appearance and inquire if anything be wanted. In many other ways the Station undertakes to afford assistance and advice to the gentlemen working there. The Naples Station offers incomparable facilities for scientific investigation, not only to those who take advantage of its tables, but also to men of science visiting Naples, to whom the Station never refuses advice and living specimens for study. The Academy of Science in Berlin has presented to Professor Dohrn a little steel-clad steamer, built by John J. Thornycroft, which is invaluable for the investigation of the Bay of Naples, and for fishing the requisite material, and lately the Station has procured a diving-dress, in which descents have been made into the water to the depth of nearly 100 feet, to search for rare animals. Many tables have already been engaged by different Governments and scientific corporations; and it is to be hoped that every year more tables will be taken, and more subsidies granted, so that the increasingly large expense may be covered by the increasing income. The natural expansion of such an institution as the Zoological Station cannot easily (and it would be a pity if it could) be hindered; and that it does so expand, though slowly and gradually, is a proof of its vitality. There is no true lover of science, or even merely of general education, who would not wish it from his heart success. Its influences are widespread. Already three of the humblest servants of the Station have learned so much that they can command good salaries; one young man having been advanced to the superintendence of the fishing, and been able to tell the Latin, Italian, French, and German names of most of the animals. The building of the Zoological Station cost 370,931 Italian *lire*, about £14,837. The library represents a sum of 30,000 francs or *lire*; the steamer 40,000 francs. The maintenance of the institution, together with the incessant development of its forces and enlargement of its facilities, has reached at present the sum of 100,000 francs and more. The following Governments have taken tables: Italy, 4; Prussia, 3; Russia, 2; Holland, Belgium, Switzerland, Bavaria, Saxony, Wurtemberg, the Grand Duchy of Baden, Hesse, and Hamburg, each 1; the British Association and the University of Cambridge, each 1. A table is given gratis to the Berlin Academy in return for the steamer it presented to the station. Altogether, nineteen tables are engaged, which represent an income of 40,000 francs (£1600). The income arising from the public aquarium has never yielded more than a sum of 20,000 francs *per annum*. The remaining expenses have hitherto been covered by subventions from the Imperial German Government, and it is to be hoped that a new yearly subvention of 40,000 francs, which has been petitioned for by the most celebrated scientific men of Germany, and granted by the German Parliament, may be consented to by the Government. The administration of the Zoological Station, and the scientific work done, demand a numerous staff of gentlemen and servants. Among the scientific men who have already made use of the Zoological Station, are Dr. W. B. Carpenter, Professor Lankester, and Mr. Balfour of Cambridge; while Germany and Russia have sent almost all their first men. The result of the work done by these naturalists is met with in almost every important scientific journal; but, during the last year or two, the Zoological Station has begun to publish periodicals of its own.

The London Medical Record.

SIMS ON BROMIDE OF ETHYL.

IN the *New York Medical Record* for 3rd April, Dr. Marion Sims publishes a paper on Bromide of Ethyl, or Hydrobromic Ether (C_2H_5Br). He traces the history of this substance, which, he thinks, is coming rapidly into common use. It has been given two hundred times in Philadelphia, and is greatly lauded by all who have used it.

Dr. Sims's first trial was not successful; the lady was very excited for eight minutes, and then he discontinued it and gave ether. On the next occasion it was poured on a folded handkerchief, and laid in contact with the mouth and nose, and held there firmly by a towel folded into a square of ten inches. The patient was anaesthetised in two minutes. The operation lasted five minutes, and she recovered consciousness in two or three minutes more.

Dr. Sims now relates an important case, which would have been a severe test for any anaesthetic. It was that of a lady, aged 25, subject to epilepsy for five years, on whom he performed Battey's operation. A drachm of bromide of ethyl was poured on a folded napkin, and held closely over the nose and mouth. In one minute another drachm was poured on it, and at the end of two minutes she became insensible and relaxed; but the conjunctiva was sensitive, the eyes rolled about, and her breathing was rapid. At the end of five minutes she was perfectly insensible, breathing sixty times a minute. The rapid breathing ceased on removing the napkin, and increased on giving fresh bromide. At the end of ten minutes she could be kept quiet; breathing quietly, but always above the normal standard. Pulse 86, full and strong. During the first twenty minutes, two ounces of bromide had been used. She then vomited. At forty minutes, she again vomited and strained. Three times during the operation there was opisthotonos, with twitching and rigidity of the extremities and constant rolling of the eyes. The operation lasted an hour and a half. The condition was good the whole time; the pulse strong and full. The rapid breathing was peculiar, and the conjunctiva continued sensitive the whole time, whilst the eyeballs were in constant motion. There was no unusual dilatation of the pupils. About $4\frac{1}{2}$ ounces of bromide of ethyl were used. She quickly recovered, but had the most distressing retching and vomiting. She had constant headache, for which a fourth of a grain of morphia was injected under the skin. In an hour this was repeated, and again a third time. Three hours after the operation diarrhoea commenced. The stools were watery, brown coloured, and smelt of the bromide. Hiccough occurred five hours after the operation. The diarrhoea continued of the same character. At 7 a.m. the pulse was imperceptible. There was no pain except in the head. She was somewhat restless. The diarrhoea seemed insufficient to account for the prostration. At 11 a.m. she had a severe convulsion with frantic raving. She died twenty-one hours after the operation.

At the *post mortem* examination, two and a half ounces of bloody serum was found in Douglas's pouch. There were no signs of peritonitis. The

lower part of the ileum was dark-brown in colour, and congested. The colon was of the same colour; the kidneys were healthy.

Dr. Marion Sims thinks that death was caused by cholera, but that this resulted from the bromide. The patient was under its influence an hour and a half. She complained of her head from that time. Her eyes were congested, and she had convulsions before death. The odour of the bromide was very apparent on examining the intestines twelve hours after they were removed from the body.

Dr. Sims has seen two deaths from etherisation where no disease of kidney was suspected till fatal coma was produced by the ether; and on careful examination, the kidneys in this case were found to be affected with acute catarrhal nephritis. It appears from the report that only five ounces and a drachm of urine were drawn off during the twenty-one hours which elapsed before death. He therefore thinks that the anaesthetic was the cause of death, while the manner of death may have been by uræmic poisoning, and he concludes that the lesson to be learned is, that bromide of ethyl should not be given in prolonged operations, and never where there is organic disease of the kidneys.

The fact that the operation lasted an hour and a half shows that it was one of unusual difficulty, and probably there was considerable loss of blood. The pulse kept up well under the influence of the bromide, and the effect of the loss of blood was not seen till the stimulant effects of the anaesthetic passed off. The same occurs sometimes when ether is given.

With respect to the unpleasant odour, we must not forget that the smell of ether was at first thought very objectionable by nurses and patients in the same ward as a patient who had inhaled it. We should soon be reconciled to an odour, however nauseous, if we associated only good consequences with it. A vapour decidedly safer and quicker in action than any other, would find favour in spite of its smell. Experiments of its prolonged use on animals should be made, otherwise the experience of this case scarcely justifies its repetition. It may be useful for slight cases, though unsuited for long ones. The variability of the odour of different samples pointed out by Dr. Marion Sims is perhaps due to the tendency of the liquid to decomposition; and this will probably be an insuperable objection to its general use. It would be worth trying to keep it in small bottles, containing no more than might be consumed the day the bottle was opened.

J. T. CLOVER.

WITH ON PERITONITIS APPENDICULARIS.

IN an essay, of which a summary is given in the *Nordiskt Medicinskt Arkiv*, Band xii, Häft 1, Dr. With describes, under the name of peritonitis appendicularis, the form of peritonitis produced by ulceration and perforation of the vermiform appendix.

It is well known that the vermiform process is often the seat of catarrh and ulceration, frequently produced by abnormal contents, hard fecal masses, or foreign bodies. In like manner, the pathological conditions thereby caused are recognised as adhesive peritonitis when the ulceration approaches the surface of the bowel, or ulceration through the bowel with local or general peritonitis; an abscess may also be formed about the bowel, and may burst in various directions. Little attention is paid clin-

ically to the affections of this portion of the intestines, and they are most frequently grouped under the comprehensive title of 'perityphlitis', which has gradually come to include all inflammations of the right iliac fossa. While the most severe cases, in which there are suddenly developed signs of general peritonitis proceeding from the appendix vermiformis, are most frequently correctly diagnosed and treated, those cases which run a more chronic course, attended with tenderness and swelling in the right iliac fossa, are, according to Dr. With, not treated yet with sufficient care, inasmuch as purgatives are administered early, although the proper object is to overcome the peristaltic action as much as possible, and allow time for adhesive peritonitis to take place.

In many cases, ulceration in the appendix vermiformis is indicated by severe pain in the abdomen, especially low down and to the right. The cases are generally supposed to be ordinary colic, and recovery takes place after a few days' confinement to bed and expectant treatment. In support of his assertions, the author refers to necropsies. Toft found, in 300 *post mortem* examinations, the appendix vermiformis sound in only 190, and more or less diseased in 110. Dr. With himself has seen a few cases of general peritonitis following perforation of the vermiform appendix, the diagnosis being confirmed by necropsy. He relates the histories of ten cases of this kind, which in their essential features present a great resemblance. Young powerful individuals are attacked without any previous indisposition, with violent pains in the abdomen, generally most severe on the right side, nausea, eructation, and vomiting; the vomited matters being 'at once or soon afterwards of a green colour. There is high fever; the abdomen is tender and distended, and often becomes hard, and the distension most frequently continues to increase. The pain and tenderness sometimes diminish, but may continue increasing in severity to the last. The vomiting generally continues. For a day before death, there is sometimes a certain amount of *euphoria*, with mild delirium; there is usually constipation. In only three of the cases was the illness preceded by indisposition of from one to fourteen days' duration; in the remainder it set in suddenly. The starting point of the pain could not always be determined with certainty; at one time it seemed to start from the cardia, at another from the umbilicus or the left hypogastrium, but most frequently it was traceable to the right iliac fossa. In nearly all the cases, enemata and purgatives were given either at the beginning or in the course of the illness.

In contrast with these, the author relates six cases, which altogether resembled the preceding in their origin and symptoms, but were treated throughout with large doses of opium; of these, four recovered, and two ended fatally. In one of these cases, during a violent fit of laughter, there was a sudden aggravation of the symptoms, with nausea, vomiting, hicough, etc.; after death, an abscess was found between the cæcum and the right abdominal wall, communicating with an ulcer which had perforated the vermiform appendix. In the other fatal case, an enema had been given before the patient was admitted into the hospital. The necropsy revealed general peritonitis, and a perforation of the appendix as large as a pea.

In a third class are placed eight cases, in which perforation was followed by local peritonitis of a less severe character; the patients all recovered.

In one of these cases the author found, on the death of the patient three and a half years afterwards, that the local peritonitis could be traced to the vermiform appendix.

Finally, in a fourth series are related five cases, in which convalescence was protracted, either in consequence of increased peristaltic action of the bowels, produced by enemata or purgatives, or because the patient sat up too soon.

In order to establish his position, that the greatest part of the affections which have been named perityphlitis, phlegmon, or abscess of the iliac fossa, are various degrees of the above-described disease, the author proposes to call it 'peritonitis appendicularis', a name which denotes both the nature and the source of the disease. It may be divided into three forms. 1. In the adhesive form, the ulceration of the appendix vermiformis penetrates so deeply that the investing peritoneum is involved and perforated. 2. Local peritonitis appendicularis is characterised by local peritonitis and primary intraperitoneal abscess. 3. Under the title universal peritonitis appendicularis are included the cases in which general peritonitis is the result. In their clinical aspect these forms of the disease may differ considerably from one another, and the author therefore gives a sketch of the symptoms, diagnosis, prognosis, and treatment of each of them.

1. *Peritonitis Appendicularis Universalis*.—The patients have often had earlier attacks, which may be regarded as stages of the same disease which have not been further developed; in a few cases, there is indisposition for a few days before the perforation; but in most this takes place suddenly. Dr. With has collected fourteen cases of this form, of which twelve ended fatally and two recovered. In six of the cases, the illness began with local peritonitis which afterwards became general; the duration of the local stage varied from four to fourteen days, that of the universal stage from two to six days. In all the cases, the pain was greatly increased when the peritonitis became universal; there was vomiting in all the cases, except one in which the perforation occurred during typhoid fever; it was usually accompanied with eructation or hicough. In all the cases, the abdomen becomes very tender and distended, when universal peritonitis sets in; sometimes there is observed painful or difficult micturition, or complete retention of urine. There is considerable fever. The temperature is most frequently a little over 102 deg. Fahr., but may rise to nearly 106 deg. The pulse varies from 90 to 140, and towards the end becomes rapid and small. There is much thirst, and the tongue is inclined to be dry. The patient's general condition is much affected; general prostration may occur very rapidly. Consciousness may be retained nearly until death; in other cases there is delirium, accompanied, however, with a feeling of being in health. The disease may be confounded with various forms of colic (lead-colic, colic from gall-stones, etc.), with ileus, with puerperal peritonitis, etc.; but it can most frequently be distinguished with certainty from these diseases. The diagnosis between peritonitis appendicularis and the other forms of peritonitis from perforation is very difficult; but in all such cases the first indication of treatment is to immobilise the intestinal canal by means of opium.

2. *Peritonitis Appendicularis Localis*.—This condition was observed in six cases in which the peritonitis afterwards became general; and in sixteen which recovered. The symptoms are: considerable

pain, coming on suddenly, in the abdomen, low down and to the right; vomitings coloured with bile; much tenderness with some distension and resistance in the right iliac fossa, where, when the tenderness allows an examination to be made, there is found more or less swelling; with a tendency to constipation. In many cases, the patients have at an earlier date had similar symptoms of short duration in the abdomen, with pain, vomiting, and disposition to diarrhoea or constipation; some have also suffered from colicky pains and tendency to diarrhoea just before the attack. The pain in local peritonitis appendicularis may vary much in intensity; in some it prevents sleep, although the patients can lie quiet; others bend and twist themselves and draw their legs up; others cannot move from the position on the back which they have assumed; the right leg especially is often drawn up. The pain is continuous, and is increased by pressure, coughing, and deep inspiration. Vomiting occurs in by far the greater number of cases, but, with the pain, is most frequently soon subdued by the use of opium; the condition of the abdomen in the milder cases is natural, except in the right iliac fossa. In the more severe cases, the whole abdomen is somewhat distended, but the tenderness and distension are always greatest in the right iliac fossa. The swelling or fulness may vary in form and size, and may yield a dull or hollow tympanic percussion-sound. There is generally fever; the temperature varies from 100.4 to 104 deg. Fahr.; the pulse from 84 to 100. During the stay in hospital, the spontaneous pain and the vomiting disappeared within the first few days under the use of opium; the tenderness and distension in the right iliac fossa lasted two weeks, and the duration of the constipation varied from four to twenty days. The diagnosis is most often easy; but, when there is severe pain in the upper part of the right side of the abdomen, the case may be mistaken for one of gall-stone colic; a consideration of the whole symptoms, however, will soon correct the diagnosis. The disease is most frequent in men; when it occurs in women, exploration will aid in distinguishing it from parametritis and other affections proceeding from the genital organs. Simple typhlitis is most frequently stercoral, and is developed gradually, with flatulence, constipation, and the formation of a painless and frequently nodulated swelling in the cæcal region. Dr. With regards the existence of a primary perityphlitis as very doubtful; the group of symptoms generally attributed to this disease belong in reality to local peritonitis appendicularis.

3. *Peritonitis Appendicularis Adhæsiva*.—This affection is difficult to recognise, on account of its various and uncertain symptoms. In five of the thirty cases recorded by Dr. With, the patients had at earlier periods suffered from symptoms which, viewed in the light of the later course of the disease, may be assumed to have had their origin in ulceration of the vermiform appendix with commencing adhesive peritonitis. These symptoms consist of slight abdominal pain lasting about twelve hours, sometimes accompanied with pain in the cæcal region, nausea, and a single attack of vomiting. There may be alternate diarrhoea and constipation, with colicky pains, flatulence, and a painful feeling of distension in the abdomen; the symptoms may sometimes be so severe as to oblige the patient to remain in bed for two days. In some cases, on single days, even to within three weeks before the perforation has taken place, the patients have felt ill, have had nausea, etc. Most frequently, the pain in

this form of peritonitis appendicularis is more severe than in ordinary intestinal catarrh; and by considering the *ensemble* of the various symptoms a probable diagnosis may often be arrived at.

The author warns against giving purgatives in all forms of the disease; even when there has been constipation for a long time, he gives opium to subdue the peristaltic action. In the milder cases he gives from 5 to 8 drops of vinum thebaicum, in the more severe cases 10 drops, three times daily; and besides this, according to the severity of the case, 15 drops in the evening or an injection of 15 milligrammes (3-5th grain) of morphia. A warm cloth is laid on the abdomen, as this seems to favour adhesion more than ice-bladders. The patients are put on low diet, and are only allowed fluids; a little milk with ice, and afterwards tea and water-gruel. Rest, and the avoidance of all unnecessary speaking, are enjoined: as few visits as possible are made, and the patient is carefully examined without making strong pressure on the abdomen. In the milder cases, the pain disappears in the course of a few days, the vomiting ceases, and the tenderness and distension disappear in five or six days. After about ten days the opium is discontinued, and the bowels are generally opened spontaneously a few days later.

When the local peritonitis has been more severe, the tenderness, fulness, and swelling continue some time after the pain has ceased. Opium is then given until all the local symptoms have disappeared—as a rule, about fourteen days. In general, the bowels will be open a few days after the opium has been discontinued; if not, an enema is used, especially if there be any distress. The author has allowed patients to remain with their bowels unopened for twenty-four days.

When a spontaneous evacuation of the bowels takes place at a time when there is reason to fear that sufficient adhesions have not yet been formed, the dose of opium is increased to ten drops of vinum thebaicum three times daily. When a spontaneous evacuation has taken place, and is not repeated within a few days, an enema is used, and afterwards small doses of castor-oil. The stools are generally scanty and hard at first, but sometimes abundant and natural. The general health does not suffer at all from the long constipation, but recovery proceeds quickly, steadily, and without disturbance. The patients become free from pain, feel themselves better daily, and have appetite, long before the bowels are opened. After the bowels have been open twice, the patients are allowed to have fish, and two days later fricassée; and in a few days they are discharged cured. Leeches may be useful to subdue the tenderness, both at the beginning of the illness and afterwards; when the distension continues rather long, blisters or the moxa may be used.

In general peritonitis, also, opium is the chief remedy, and is given in doses of from 10 to 20 drops of vinum thebaicum every half hour or hour, with repeated injections of morphia; other remedies are of subordinate importance. Adhesive peritonitis appendicularis may be treated by rest, warm applications, low diet, and doses of from 5 to 10 drops of vinum thebaicum three times a day.

LEAMING ON INTRAPLEURAL RÂLES.

DURING the past few years, Dr. James R. Leaming, of New York, has been advocating some novel views as to the mode of production and the seat of many

physical signs present in diseases of the lungs. The sounds which, since the time of Laënnec, have been regarded and taught as intrabronchial and intrapulmonary, are referred by him to the pleura. He believes (*St. Louis Courier of Medicine*, vol. iii, No. 4) the bronchi up to the third and fourth divisions to be constantly filled with residual air, in which there can be no movement except by molecular motion. Nine-tenths of the whole volume of air contained within the lungs he considers to be residual; the tidal or atmospheric air, which is taken in at each inspiration, composing the remaining tenth. The tidal air advances only to the fourth division of the bronchi, and here, mingling with the residual air by the law of the diffusion of gases, reaches the air-vesicles. This theory destroys the idea of an active air-current within the smaller bronchial tubes; hence the sounds that we believe to be caused by such a current must be otherwise explained.

The mucous, subcrepitant, and crepitant râles, are regarded by him as intrapleural sounds, caused by fibrous exudation in the pleura. In explaining the production of the normal vesicular murmur, he says: 'It is composed of two elements, air friction of the tidal movement in the connective tubes, broncho-respiratory, and the dilatation of the true respiratory system, which contracts upon the residual air with susurrus. When inspiration takes place in ordinary respiration in health, the residual air is increased, it has been estimated, one-tenth, which, dilating forcibly the contracting true respiratory system, causes a vibrating murmur of low pitch, resembling the roar of the sea heard at a distance.'

At a late meeting of the Kings' County Medical Society, the relation of these views to the signs of phthisis were fully explained by their author. He says: 'I believe that nine-tenths of all the cases of phthisis of any form, that have come under my observation, have had an intrapleural origin; that is, that the first discoverable signs of pathological changes were there located.' The primary cause of intrapleural pathological processes is depressed vital power, as from mental irritation and worry, from prolonged anxiety, loss of friends, miscarriage of business, of hopes of any kind, overwork, bad air, bad food, and fever and ague poisons. When these conditions are present, a slight cold, or increased vital depression from any other cause, may result in pulmonary hyperæmia, with plastic exudation upon the pleural surfaces, which, if the cause be not removed, may remain and become organised, forming pseudo-membranes and adhesions. The local disability from thickened pleura and adhesions constantly contracting, invites new exudations from every new hyperæmic cause of debility, until contracting bands shoot into and through the lung, and progressive fibroid phthisis is established, which may result in progressive destruction of the air-sacs, or the formation of cavities from caseous degeneration.

'Plastic exudation upon the pulmonary pleural surface has the immediate effect of obstructing the capillary circulation in that part of the true respiratory system which subtends the deposit. If it is not quickly reabsorbed, it becomes organised, and contracts, causing still greater obstruction. Hæmoptysis frequently results, it may be immediately, but in most cases not until after two or three weeks, or even longer. The reason of this is evident, if we consider the minute anatomy of the circulation of

the true respiratory system. The nutrient arteries of the lungs are derived principally from the bronchial, and differ from all others in the body, in the fact that they have no returning veins; no *vena comites*. The nutrient capillaries, after performing their special function, anastomose with the radicles of the pulmonary vein, and their blood is aerated, even while performing its office, and hence, notwithstanding this apparent anomaly, arterial blood is alone forced into the left heart. Consequently, obstruction to the nutrient capillaries throws their blood back upon the bronchial arteries, which might seriously interfere with the circulation, except for a provision of nature, by which mucus is exuded copiously through the mucous membranes (bronchorrhea), or perhaps blood (bronchorrhagia): so that either may be an important symptom of plastic exudation, and if carefully sought for, the plastic râles will be found.'

In substantiation of these views, Dr. Leaming cites several observations which were made on cows condemned on account of pleuro-pneumonia; the animals were first thoroughly examined, and afterwards a *post mortem* was made. In regard to one, he says, 'the right side was dull, under percussion, everywhere. There was bronchial breathing over the centre of the lung, but no râles, except over the shoulder and over the diaphragm. *Post mortem* showed consolidated lung, except a portion of the depending part, which was œdematous. The true respiratory system of this part was filled with glutinous fluid. There were adhesions at the summit of the lung and at the base, where the râles were heard, and there were none elsewhere. Over the left side there was a moist quality of the respiratory murmur. Listening attentively, an occasional soft, moist, distinct râle could be heard. The *post mortem* examination showed the pleural surfaces bathed with their adhesive exudation, and, occasionally, Prof. Law could raise with the point of his knife radiating fibres of beginning organisation. There was no pneumonitis, no pleuritis, and the hyperæmia was relieved by the bleeding. More positive and direct evidence of the intrapleural origin of râles, of the crepitant and sub-crepitant varieties, as well as of the priority of interpleural processes could not be desired.'

The practical advantage of the early diagnosis of intrapleural processes, which may lead to phthisis of either the tubercular or the fibroid variety, is its perfect curability by simple management, systematic and gentle expansion, by filling the lungs moderately and then holding the breath, the expansive force of the inspired air becoming rarefied by heat in mixing with the residual air, being the efficient factor. Milk diet in large amount, so that the blood-vessels may be distended and nutrition carried to every part, with thorough and repeated applications of spirits of turpentine over the region of pathological signs, with removal of depressing conditions, will speedily cause to disappear all evidence of disease, which if left to the remedial efforts of nature might result in one of the forms of pulmonary phthisis.

MARCHANT ON RUPTURE OF THE MIDDLE MENINGEAL ARTERY.

IN the numbers of the *Revue Mensuelle* for March and April is a memoir by M. Gérard Marchant, of Paris, on ruptures of the middle meningeal artery, especially in association with simple fractures of the

lateral portions of the cranium. One instance of this lesion was observed by the author in 1875, and a second three years later. He has since paid much attention to this subject, and has collected, partly from the *bulletins* of the Anatomical Society of Paris, partly from unpublished records of hospital colleagues, thirty cases of simple fracture of the skull complicated with rupture of the middle meningeal artery. In his memoir, M. Marchant discusses the symptoms and treatment of this form of injury, and gives also the results of some anatomical and experimental investigations. The signs through which the surgeon is enabled to diagnose the complication are of two kinds, local and general. The previous history of a suspected case of this kind is always of some importance, particularly if there be any evidence of a direct injury to the affected region of the skull. Chief among the local signs are diffused œdema of the temporo-parietal region, pain very intense at one point on pressure, and ecchymosis, appearing some hours after the accident, sometimes in the mastoid region, sometimes in the inferior facial region near the zygoma. Occasionally there is dilatation of the pupil on the same side as the effusion. Of the general symptoms, marked stertor is the most constant. The patient is usually comatose, and presents the phenomena of cerebral irritation and compression. The disturbances are, as a rule, diffused, and indications of muscular contracture, relaxation, and resolution appear in different cases in a variable order.

It is only when they are presented in association that these symptoms are of value in the establishing the diagnosis of ruptured meningeal artery in cases of injury, without external wound, to the side of the head. Ecchymosis over the zygoma and at the lower portion of the temple, is a symptom also of fracture in the mastoid region; stertor, when an isolated symptom presents no special indication, since it may be observed in any case of cerebral compression.

According to Duret, who has carefully investigated the cerebral phenomena produced through increase of pressure within the cavity of the cranium, and as may be made out on study of the thirty cases collected by M. Marchant, certain other symptoms have been frequently met with in the above complicated injury. Ocular and circulatory disturbances, derangements of digestion, trismus, disorders in the nervous and urinary systems have often been noted; but an attempt to make a methodical grouping of these disorders, as symptomatic of this or that lesion, will be found impossible. In future, a surgical observer, in dealing with a fracture of the cranium and suspecting rupture of the middle meningeal artery, ought carefully to note the occurrence of vomiting and of motor and sensory disturbances; he should carefully study the characters of the pulse and of respiration, and make out the condition of the pupils and the degree of sensibility of the cornea. The last is a valuable index of the degree of cerebral compression: the more the intracranial pressure is increased, the less does the cornea react when touched.

At the request of M. Marchant, an examination of twenty-five skulls was made by M. Feré, in order to determine the relations of the cranial walls to the branches of the middle meningeal artery. This vessel is usually described as terminating in two branches, an anterior and a posterior; but, as the anterior is almost always subdivided into two trunks of almost equal importance before it reaches the superior limit of the squamous portion of the tem-

poral bone, it follows that in each lateral portion of the cranium, and in the regions most accessible to surgical or accidental wounds, the middle meningeal artery presents three large branches. Of these, the anterior branch alone is regular in its relations to the cranial wall. Below, it is situated at a distance of between 23 and 30 millimètres from the external orbital process of the frontal bone, and at its termination about 16 millimètres behind the point where the sagittal strikes the coronal suture. It is placed in front of the fissure of Rolando, from 20 to 25 millimètres below and about 35 millimètres above. The posterior branch of the anterior division of the artery is situated behind the fissure of Rolando, and also behind the ascending parietal fissure. The hindmost branch ascends beyond the squamous portion of the temporal bone, at a point about 83 millimètres behind the external orbital process of the frontal bone; it then approaches the lambdoid suture, with which it possibly runs parallel, its direction being cut by a line carried directly upwards from the mastoid process.

M. Marchant recognises the fact that, in a case of intracranial hæmorrhage, the effused blood may be derived from some other source than the middle meningeal artery. The bleeding may come from the proper vessels of the diploë, from the vessels running between the bone and the dura mater, from the sinus of the dura mater, or from some large vascular trunk at the base of the cranium, as the internal carotid or the internal jugular, or, again, from some of the numerous vessels that surround the encephalon, and penetrate into its interior. But it has been found that intracranial effusion of blood from any other source than the middle meningeal artery is very rare. In twenty-six of thirty-one collected cases, the bleeding had been from this vessel. In the rarer forms of injury, the clinical phenomena differ from those described by the author as characteristic of rupture of the meningeal artery.

The most frequent cause of rupture of the middle meningeal artery is direct injury from a splinter of cranial bone. An injury of sufficient force applied to the side of the skull produces a fracture of both tables of the cranial bone. If the body effecting the injury be angular and strike the cranium with a small surface, it causes a form of direct comminuted fracture, in which are presented a certain number of fragments, usually triangular in form, depressed each at its summit, and continuous at the base with the cranial wall. The depression is more or less marked, and may vary in depth from a few millimètres to 3 or 4 centimètres. In this form of injury, the dura mater, which is less adherent in the lateral regions than in other portions of the cranium, will probably be stripped away from the bone; and if the injury have involved at any part the track of a large branch of the middle meningeal artery, this vessel will probably be wounded by the sharp extremity of one of the depressed fragments of bone. This view as to the most likely cause of rupture of the middle meningeal artery is supported by the fact that, in the majority of reported cases of this injury, there is a history of a fall on some projecting part or of a blow from some pointed or sharp body. The fracture associated with rupture of the meningeal artery is usually a starred one, and so indicates the frequency of direct injury in such cases. The effused blood collects between the bone and the detached dura mater, and very often, in consequence of extensive separation of this membrane, forms a large clot. A second but much less frequent cause of wound of

the middle meningeal artery, is a forcible rupture through injury of the osseous ring or canal which frequently encloses the anterior division of the vessel before its ramification.

In the first variety of the injury, comminuted fracture of the lateral wall of the skull through direct violence and wounding of one of the branches of the middle meningeal artery, there will be speedy and grave symptoms of cerebral compression, due to effusion of blood between the bone and the dura mater, and over a zone corresponding to the extent of the separation of the membrane. This zone, as has been made out both by experimental and by pathological research, extends from the posterior margin of the lesser wing of the sphenoid bone to a line about one inch from the internal occipital protuberance, and in this direction is about five inches in length. From above downwards it measures rather less, commencing at a short distance below the sagittal suture, and being bounded below by a horizontal line carried from the sharp posterior margin of the lesser wing of the sphenoid, just over the superior margin of the petrous portion of the temporal bone to a point above the horizontal portion of the lateral sinus. In this form of injury temporo-parietal ecchymosis and infiltration of blood may be produced in two ways. It is most frequently the direct result of the injury, the contusion of the skull producing at the same time ecchymosis, infiltration of blood, and fracture. The effusion in such cases is usually limited in extent, and has no tendency to increase. In some instances, though very rarely, the ecchymosis is due to the filtration of blood between the fragments of bone, and through the lacerated epicranial aponeurosis; in this variety, there is a tendency to increase in the amount of effused blood.

In the second variety of injury to the middle meningeal artery, that in which a deep canal or an osseous ring, occupied by the anterior branch of the vessel, is divided through indirect violence and the extension of a fracture from the vault to the base of the skull, effusion of blood, in consequence of concomitant laceration of the dura mater, takes place within this membrane, and varies much in volume in different cases. The symptoms of cerebral compression may be wanting in an instance of this kind, and it is sometimes impossible to make a diagnosis. The prognosis is usually less unfavourable than that of the first form of injury. Here either the main trunk or the anterior branch of the middle meningeal artery is the starting point of the hæmorrhage.

During life the anatomical diagnosis, that is to say, the determining which branch of the middle meningeal artery is the source of the bleeding, rests only on probabilities. Still, observations as to the seat of the injury, the most painful point, and the region involved in the ecchymosis, associated with knowledge of the relations of the branches of the middle meningeal artery to the cranial wall, might in some cases enable the surgeon to refer the source of the effusion to the anterior or posterior branch of the vessel. The diagnosis would be much facilitated by the existence of a scalp-wound.

The anatomical diagnosis is often attended with much difficulty, even after death. The arterial rupture may vary in extent from a well-marked division of one or several branches to a scarcely appreciable puncture. In some cases there is hæmorrhage *en nappe*, which apparently has its origin in the vessels passing from the dura mater to the bone.

In some cases of compound fracture of the cranium, especially in the infant, in consequence of the close

adhesion of the dura mater to the bone, of the tendency of the blood to escape externally, and to form a superficial and extracranial hæmorrhage, and, again, of the superficial position and clean section of the artery, surgical intervention—trephining and deligation, may present some chance of success. With the adult and aged, trephining is thought to be useless in the majority of cases. The intracranial accumulation of blood is as a rule widely diffused, and is not accessible over the whole of its surface. Moreover, it is impossible to remove so large and firm a clot as is usually formed without causing some meningo-encephalic irritation, and giving rise to septicæmic complications. This clot forms a very good hæmostatic, and, frequently, if the surgeon attempt to remove it by a curette or by washing it away, he will find it necessary to deal with fresh bleeding, the starting point of which there may be some difficulty in discovering. If the origin of the hæmorrhage can be made out, it is often found to be in an artery deeply seated within the cranium, and covered by a fold of dura mater. Another contraindication is the fact that compound fracture of the side of the skull, with rupture of the meningeal artery, is almost always associated with cerebral contusion on the opposite side of the head—the so-called lesion *per contrecoup*.

W. JOHNSON SMITH.

WOODWARD ON MEDICATION BY THE RECTUM.*

THE history of enemata goes back at least to the times of the ancient Egyptians, who, as Herodotus testifies, had a custom of using emetics and clysters three days in every month for the purpose of preserving their health. The Greek physicians made great use of clysters in the treatment of the fluxes, particularly in dysentery and *coeliac flux*, preferring this method to medication by the mouth whenever they supposed the morbid process to be seated chiefly in the large intestine. Sometimes they injected whey, milk, ptilan, broth of spelt and the like, intending thus to wash out acrid humours from the bowel, and favour the efforts of nature to evacuate them; sometimes they aimed to sheath the intestinal mucous membrane, and protect it against acrid humours descending from above, by injecting oleaginous and gummy substances; or they endeavoured to check the flux by injecting astringent decoctions of various kinds, and to allay pain by clysters containing opium, hyoscyamus, and other narcotics; finally, in ulcerative dysentery, and in the *coeliac flux*, they essayed to stimulate the intestinal ulcers to cicatrization by enemata containing various styptic and escharotic mineral substances, such as alum, the scales and oxide of copper, quicklime, and the native sulphurets of arsenic. These more potent substances appear to have been avoided by Celsus; but the Arabians adhered in this respect to the

* An extended abstract of the article of Dr. J. J. Woodward, from the second part of the *Medical and Surgical History of the War of the Rebellion*, etc. (pp. 825, 836), given above, from the *North Carolina Medical Journal*, March 1880, will give some idea of the exhaustive manner in which all the work is done. The extensive foot notes in the smallest type are necessarily omitted, but no student who desires to acquaint himself with the earliest development of treatment, and follow it down to within a very late date, can afford to pass by this, the most valuable part of the work. The developing stage of the metallic enema apparatus, figures of which are given from the works of Marcus Gatinaria, dated from 1525 to 1604, bear a nearer resemblance to the cowhorn clyster tube said to be used by Kaffirs than the modern instrument.

Greek practice, which survived the middle ages, and which still found defenders as late as the sixteenth century.

About this time, however, a prudent opposition to the employment of enemata of caustic or corrosive substances began to make itself felt. Rondeletius held that the practice of the ancients in this respect should not be imitated; for opiment, quicklime and the like must act as caustics to the intervening surfaces of the intestines, as well as to the ulcers. His views were shared by Felix Plater, Forestus, Hildanus, Septalius, and Sennertus. Hildanus pointed out that gangrene is produced by external application of arsenic, and indignantly asked what else was to be expected if it be applied to so delicate a surface as that of the intestines. These physicians used in dysentery emulgent clysters of barley-water, syrup of roses, yolks of eggs, and other bland substances, to which, while the pain was acute, they added opium or other anodynes, and in the advanced stage relied on decoctions and infusions of the vegetable astringents, to which they sometimes added burnt hartshorn, Armenian bole, and other drying remedies, or mastic, frankincense, and other resinous drugs, believed to be possessed of healing virtues.

Zacutus Lusitanus vainly attempted to combat the new views, declaring that it was better to inject even quicklime and arsenic than to let the patient die. His protest failed to check the general treatment in the direction of reform; indeed, objections began to be heard even against the more innocent enemata which still continue in use. That wild enthusiast, Van Helmont, directs one of his wildest diatribes against this mode of treatment; and although his followers were by no means numerous, yet even among other physicians clysters now began to be indiscriminately employed. E. H. Müller declared that by their abuse injurious effects were often produced; Hoffman counselled caution, even in the use of milk, gum, gelatine, and the like, insisting that, instead of benefiting the patient, they often made the disease worse; Van Swieten held that the quantity of fluid injected ought never to exceed three or four ounces; while Degner went still further, and boldly affirmed that clysters were unsuited to the treatment of dysentery.

It is true that this extreme view did not long maintain its ground; nevertheless, during the last century, and the beginning of the present, physicians were for the most part cautious in the use of clysters for this disease. Zimmermann countenanced only the sparing use of infusions of camomile or other bitter herbs and flowers, and expressed the opinion that clysters containing laxative, emollient, and fatty substances are injurious. Fournier and Vaidy admitted that emollient clysters are indicated in dysentery, yet thought that, unless great dexterity were employed in administering them, the irritation produced by the introduction of the clyster-pipe counter-balanced any advantages that might be expected. Even during the last century, however, anodyne injections enjoyed a certain degree of popularity; and since the commencement of the present century, there has been a general revival of medication by the rectum in dysentery.

Anodyne Clysters.—Enemata, containing some preparation of opium, were very commonly employed in ancient medicine, and suppositories containing opium, with or without astringents, were frequently employed by both Greek and Arabian physicians for the same purpose. Enemata, containing narcotics

in the fluid form, were countenanced in most of the works on dysentery published in the sixteenth and seventeenth centuries.

Sydenham commonly administered clysters of milk and theriaca, regarding them of wonderful efficacy in checking the motions. Pringle used emollient clysters, to which he added twenty to fifty drops of laudanum. Donald Monro declared that opiate clysters often gave more relief than anodynes administered in any other way. Since then such injections have been commended by Blanc, Hunter, Ballingall, Bampffield, Cheyne, Abercrombie, Annesley, Twining, Bankier, Hauff, Baly, Austin Flint, Bamberger, Morehead, G. B. Wood, Aitken, Savignac, Barrallier, Heubner, and many other physicians.

Nevertheless, certain disadvantages, which have been conceded even by their advocates, attend the use of these enemata. Not infrequently the condition of the anus is such that even the most careful introduction of the clyster-pipe provokes serious irritation; and although the quantity of fluid injected be restricted as much as possible, its presence in the rectum often provokes a reflex action by which it is promptly expelled, so that the effect of the operation is to increase the local irritation. Moreover, the enema is so frequently expelled before the anodyne dissolved in it can be wholly absorbed, that the physician must always feel a degree of uncertainty as to how much of the drug he is introducing into the circulation.

These considerations have led many physicians, among them such skilful practitioners as Vogt and Niemeyer, to regard the use of all clysters with distrust. Tripler testified that anodyne enemata were apt to become of themselves sources of irritation, and to aggravate the sufferings of the patients, and Stillé entertained serious doubts whether enemata are ever useful in the acute stage of dysentery. These objections, combined with the obstacles to this mode of medication usually encountered in the military service, served to limit the employment of anodyne enemata during our civil war. They are mentioned with favour by a few of the reporters; but the testimony presented is not sufficient to throw much light on the question of their real utility. For myself, while I do not doubt in the least that they are very often of apparent, and sometimes of real benefit, I think it probable that all the good they are capable of doing can be obtained with greater certainty by the hypodermic injection of morphia, and anticipate that with the exclusion of the latter mode of medication they will disappear from practice.

Astringents and Drying Clysters.—Infusions and decoctions of the various vegetable astringents continued to be occasionally employed as enemata in the later stages of acute dysentery and in the chronic fluxes. They were regarded with favour by Annesley, Bamberger, Savignac, Barrallier, Heubner, and others, and are usually administered in combination with some preparation of opium, but have not, during the present century, enjoyed the popularity of some of the substances of the group next to be mentioned. Among the mineral astringents that have been used as clysters, alum, the astringent salts of iron, the acetate and subacetate of lead, the sulphates of zinc and copper, and the nitrate of silver, may be particularly mentioned; each has had its advocates, but the last named has enjoyed by far the greater popularity.

After reviewing the use of injections of nitrate of

silver solution, from the time of their suggestion by Robert Jackson in 1817 to our late civil war, Dr. Woodward adds :—'I incline to the opinion that the praise lavished by some writers upon this mode of medication is hardly warranted by the clinical details that have been reported; and although it is not surprising that the introduction of such a styptic into the rectum should sometimes, temporarily at least, check the flux, it is difficult to believe that the small quantity of solution usually injected is likely to reach the ulcerated surfaces that may exist in any part of the colon.' This difficulty was overcome in a certain measure by Hare, who injected a strong solution through a tube passed beyond the sigmoid flexure. Some success has followed the cauterisation, through a speculum, of ulcers near the anus, which have kept up fluxes. 'Walsh cured a case in this way in 1848, and the method has since been employed with good results by Kennedy, Taylor, Maury, and Dills, while T. Gaillard Thomas has successfully used pure nitric acid in the same manner.'

Of the drying remedies, the subnitrate of bismuth is the one which has attracted most attention in modern times; but it is so easy to bring this insoluble powder into contact with all parts of the canal by administering it by the mouth, that it can hardly be necessary to employ it by the rectum.

Iodine clysters were first employed by Eimer; but Vogt subsequently gave the matter a fair trial, and found that weak solutions were inefficacious, while strong solutions actually served to make the disease worse.

Ipecacuanha clysters are of old repute, coming down to us from the time of Helvetius. The papers cited by Dr. Woodward give no conclusive proof of the virtue of ipecacuanha used as an enema in dysentery. 'The fashion that is bringing ipecacuanha clysters into vogue, has at least the merit of affording a less objectionable substitute for the frequent use of clysters of iodine and nitrate of silver.'

Antiseptic clysters seem to have descended to us from the days of John Hunter, who employed antiseptic decoctions of bark by enema, for dysentery, and he also employed a decoction of tormentil root and oak bark with opium, which answered the same purpose. Charcoal, chloride of lime, Labarracque's lotion, hyposulphite of soda, and creasote, have all been used for the same purpose. Dr. Woodward says: 'We may fail in our attempts to introduce efficient doses of antiseptic substances into the blood, or to give enough by the mouth to produce any very great effect in the lower bowel, but how easy to fill the colon, if necessary, with substances that will destroy low vegetable forms of life. Accordingly, as Christian Languis resorted to enemata acidulated with oil of vitriol, by which he hoped to destroy the vermiculi he imagined to produce fluxes, the modern believers in contagium animatum have employed injections of diverse substances for the purpose of killing bacteria. 'The new speculation, like the old one, is unproven, but it is not necessary to accept either in order to recognise the benefits likely to ensue in appropriate cases from the injection of antiseptic substances, provided those are selected which are not injurious in their action upon the inflamed mucous membrane. From this point of view, salicylic acid would appear preferable to carbolic.'

Clysters of water have their origin far back into the remote history of the curative art. Cold water has been highly recommended by many writers to produce a local antiphlogistic effect; and hot water has been more lately recommended by those who

have drawn therapeutic inferences from the blanching effects of hot water in vaginal injections. The suggestion of Hare was to pass a long tube into the bowel, and thus enable us to change a huge internal abscess into an external lesion, and rid the colon of putrid contents. Dr. Woodward considers that the use of the injections of water seems worthy of more extended trial; but, in future attempts, 'it would appear desirable, not only that the fluid injected should be as nearly as possible of the temperature of the body, but chloride of sodium or some other metal salt should be added to it to make its specific gravity approximate that of the blood, in order that the disturbing influences of rapid endosmotic processes may be avoided'.

SCHIFF ON CONDUCTION IN THE SPINAL CORD.

PROFESSOR SCHIFF read a paper on this subject at the meeting of the German naturalists and physicians, held at Baden-Baden in September 1879, which is abstracted by Dr. Lautenbach as follows in the *Philadelphia Medical Times*, April 24, 1880.

Dr. Schiff said: I have continued my investigations on the spinal cord, and have especially much improved the methods of determining the extent of the lesions produced by physiologists. I have endeavoured also to keep the animals alive as long as possible, so that the primary effects of the operation might be distinguished from the durable paralytic and anæsthetic effects, and to study these latter in all their phases. The method of operation now adopted by me is very similar to that described in my *Lehrbuch der Muskel- und Nerven-Physiologie*. For the operations on the white substance, my former method has been retained in all its particulars. The grey substance is destroyed by mechanical irritation or through injections of ink, etc., thereby producing an inflammation. The degeneration and absorption of the destroyed portions is then waited for. It is simply impossible to destroy in any other manner the functions of the grey matter, without at the same time affecting the white substance.

In the necropsies, transverse sections of the spinal cord are made, but, as these are examined with transmitted and not with reflected light, these sections have to be relatively thin. The examination of transverse sections, taken on the level with the wound, is in most cases of but doubtful utility, and must be made with the greatest care, as the hardened cord becomes brittle at the edges. It is true that this is no longer to be feared when, as in all the conclusive experiments, the animals have lived for a long time after the injury, and consequently the true inflammatory process is over. At the best, such investigations only show how much of the cord has been cut. But as the loss of function following a section into the nerve-substance always (and a fraction of a millimètre is here often of the greatest importance) extends further than the section itself, and as the portions of the cord limiting the extent of the wound are also made functionless, we must seek a more accurate method of determining the extent of the lesions produced. For the white substance* this is absolutely possible, provided the animals live long enough after the operation. There is then found in the vicinity, sometimes only one quarter to one half millimètre above and

* This great accuracy is at present not of so much importance for the grey substance.

below the wound, the so-called primary degeneration. The nerve-fibres disappear in a sclerotic tissue, and just as far as these fibres have vanished, we must conclude that just thus far the cord has been rendered functionless by the operation.

The spinal cord is best hardened in alcohol, to avoid the use of colouring agents. With the free hand it is then cut into not too thin sections, and these are then examined with the polarisation microscope; when necessary, the plate of gypsum is used. A very weak power that will allow the whole of the transverse section of the cord (dog) to be seen at one time suffices to show in every preparation (prepared, as usual, with the oil of cloves, and afterwards enclosed in balsam) every single transverse section of an undegenerated nerve-fibre much better than it can be seen with the ordinary light and the higher powers. The nerve-fibres are seen in the dark field of vision as bright points with black crosses.

The investigations made with polarised light give us, in this manner, a certainty and facility, combined with the power of rapidly examining the preparations, which can be attained with no other method. When within the limits of the white columns—which are first focussed with the gypsum prisms not crossed—on the crossing of the prisms no bright points are seen, it is certain that all the longitudinal fibres have really degenerated. The absence of fibres could not have been produced after death in the preparation of the sections, as they must have been destroyed during life in order to have degenerated and lost their double refracting power. If during life but one fibre or group of fibres at the edge or in the angles of the gray substance had escaped section, it would have been detected immediately, by this method of investigation, by the uninjured fibres appearing very bright. The limits of the grey substance can be seen most sharply defined by turning the prism, and in this manner it is often possible to see the border of the grey fibres, when with ordinary light it would not have been seen. A higher power, with more intense light, must be taken in order to determine with certainty that what seems to be grey substance is really such, and not another degenerated tissue, which fails to doubly refract.

The preparations (which were open for examination every afternoon during the continuation of the meeting) are taken from dogs who lived a number of weeks—to four months—after the operation.

After the explanation of the methods which I have just given, you will easily recognise that in some of these preparations all of the white columns have degenerated, *i.e.*, they contain no trace of doubly-refracting elements, while already immediately above and below the grey substance, with its ganglionic elements, has remained unaffected. The degeneration shows the extent of injury at the point of section. As a comparison, I have placed by the side of these preparations others where some portion of the white columns (oftimes against my will) has escaped injury. You will see the uninjured fibres as bright groups in the dark field.

I further show you a preparation (dog) taken at a great distance from the wound, which involved the whole of the white substance. Then, again, you see groups of normal fibres, which with the aid of the gypsum-plate (red, first order) become very apparent through their colour and brightness. In one of the preparations you find in the anterior columns but four double-refracting primitive fibres. In some of these preparations, which I have coloured with

carmine, can be observed in the—according to the testimony of the polarisation microscope—totally degenerated anterior column, very near the anterior nerve-roots, three or four of the red points, which have tentatively been called naked axis-cylinders. In a communication which I design making, the reasons will be given why I think that these points should not be regarded as axis-cylinders. But, even were I mistaken in this regard, it could not influence this demonstration, as the loss of the medullary sheath already shows that the degeneration has commenced here, and the degeneration is only expected to show the extent of the artificial lesion.

These preparations demonstrate, *ad oculos*, how much those gentlemen are mistaken who declare that it is absolutely impossible to cut the whole of the white substance or individual columns of the same in their entirety without at the same time producing an extensive lesion of the grey matter. To do this, it is true, much patience is necessary, and I have had to make many unsuccessful experiments in order to obtain a sufficient number of decidedly convincing facts and observations. In making these experiments the operator must endeavour to follow, as nearly as possible, the well-known anatomical shape of the columns. The sections which are made in straight lines and right angles are mistaken methods, and it is impossible, by their aid, to arrive at accurate facts respecting the physiology of the spinal cord. Such methods could only lead to erroneous views, and this was so much the more possible, as the observations were continued only for a few hours, during which time the influence of injury and of the effusion of blood into the interior of the cord could not be distinguished from the durable effects of the lesion. My dogs in whom the white columns were entirely cut across, and others where the lateral white columns only were cut (at the last dorsal and first lumbar vertebræ), were, in the first hours, as if paralysed, and sensibility was either absent or much diminished in the parts posterior to the injury. Little by little, however, the animals recovered the sensibility to pain and pressure, and, where the posterior columns were concerned, also that for touch, and voluntary movements of the hind legs and tail returned. The movements were often somewhat unsteady, but were present in every joint. The sensibility to pain was complete.

Even when the grey substance was considerably injured with the white, the movements and sensibility (the last with the modifications well known from my other experiments) returns; and I can, from these experiments—of which I show you no examples—only repeat that the sensibility of all portions of the posterior part of an animal and voluntary movements are conducted if a relatively very narrow bridge of normal grey matter remains. The same portions of grey substance which correspond to this bridge may be cut across a centimètre above or below the chief injury, and yet the conduction not be interfered with. The bridge of grey matter may be in the middle or in either of the lateral halves. If this bridge be very small, however, and should it comprise only the external part of one lateral half of the grey substance (which in dogs, cats, and rabbits is enclosed between the folds of the white lateral columns), the sensibility of but one side of the parts posterior to the section will remain. In cats, the insensibility usually remains on the side corresponding to that where the bridge of grey matter exists, while in dogs it is usually the opposite side which is sensible.

I have just alluded to the lateral ramifications of the grey matter. It seems that their existence is not yet generally known, and that many are still of the false opinion which was one time defended by Ludwig and Biel—that they are only connective-tissue septa, which proceed from the membranes of the cord to the grey matter. It is true that connective tissue and blood-vessels are to be found in these ramifications. Stilling long since, and especially in his great work on the spinal cord, showed that these ramifications of the grey nervous matter of the cord are chiefly composed of nervous continuations (oftimes with ganglionic bodies), and that these extend far into the lateral columns, and then turn upwards or downwards, in part returning to the central grey matter. Most of the investigators who have examined these ramifications under high powers of the microscope have recognised their essentially nervous nature, and I have found new arguments to sustain the teachings of Stilling, even without the aid of a very strong objective.

Should we, as do certain experimenters of the Leipsic school, fail to recognise these ramifications, we could believe that we had cut across or destroyed all of the grey substance which could connect the anterior with the posterior portion of the body, when in reality only the central grey substance had been cut. As in such cases sensibility (often very marked) still continues in the parts posterior to the section, we would arrive at the false conclusion that sensibility is only conducted by the white columns; and should we not be able to distinguish between sensibility to touch and sensibility to pain? And should we, further, know naught of the retardation of sensory conduction, it would be possible for us to say that *all* sensory impressions are conducted by the lateral columns, and the apposition of physiological experiment with pathological observation would be complete.

It has now, however, become possible to prove what I formerly could only give as very possible; that the *white longitudinal fibres of the antero-lateral columns conduct no sensory impressions to the cerebrum*. On the contrary, they serve for the voluntary movements.

In a series of experiments I was able, in the region of the first lumbar vertebra, to destroy the whole of the grey matter, including even the outermost ramifications in the lateral columns. The most, and perhaps all, of the longitudinal fibres of the white lateral and anterior columns retained their structure and doubly-refracting power, but the shape of the lateral columns was so changed that, as you see in the preparations, the innermost bundles of fibres, having lost their hold, extend into the seemingly greatly enlarged central canal, around which not the slightest trace of grey matter is to be seen. In these cases partial voluntary movements of the hind extremities—at least, from the knee downwards—still existed; but all sensibility, even for the strongest induction-currents with the electrodes inserted into the skin, was permanently gone, provided the white posterior columns were cut across.

I show you other preparations, which show that the degeneration following the inflammation of the grey substance extends underneath the wound sooner in the lateral ramifications than in the central grey matter.

You will excuse me from giving a summary of my results, as my chief object is to show you, by means of preparations, that the experiments were really made as I described them. It is to me a pleasure

to be able to say before you that the continuation of the experiments has more and more added to the conviction, that I have not a word to withdraw from the exposition which I gave twenty years ago of the physiology of the spinal cord, though there is much to add from the standpoint which I take at present.

MARKOE ON THROUGH DRAINAGE IN THE TREATMENT OF OPEN WOUNDS.

DR. MARKOE of New York, in discussing (*American Journal of the Medical Sciences*, April 1880) the theoretical claims put forward by Mr. Lister as to the foundations of his antiseptic treatment of wounds, puts forward the following questions. It is asked, in the first place, if there be no other explanation of the ill-behaviour of wounds beside that offered by putrefaction and absorption of putrid materials into the blood; secondly, if there be no agencies which modify the tendencies to ill-behaviour in wounds besides those that prevent putrefaction; thirdly, if all the details insisted upon by Mr. Lister be necessary to secure the favourable result; and, lastly, if it be true that if all the precautions required are carefully and thoroughly taken we may be absolutely sure of success? The first and second of these questions in Dr. Markoe's opinion admit of an affirmative answer, whilst the other two should be answered in the negative. In his consideration of the second question, it is stated by Dr. Markoe that there are certain agencies which act directly, locally, and at times powerfully, in controlling or even in arresting inflammation. Of these, the chief are, cold, local blood-letting, and the action of certain drugs. Of the last class of agencies one of the most important is carbolic acid, the marvellous power of which, it is stated, in controlling inflammation would be more distinctly and more frequently recognised, if the popular mind were not so exclusively occupied with the action of this agent as an antiseptic.

The real subject of this paper is a report of a method of treating wounds and injuries which has been adopted by Dr. Markoe during the last ten months in the New York Hospital. This plan consists in the free and constant use of appropriate solutions of carbolic acid in water, no care being taken to keep the wound shut off from the influence of the atmosphere, and provision being made for the inner surface and cavities of the wound being constantly, or at least frequently, moistened by the carbolic acid solution. The idea underlying this plan of treatment is that, by controlling the tendency to inflammation by the use of carbolic acid, applied constantly, and in an effective way, to the injured surfaces, we can obviate the dangers to which, in the process of repair, these wounds are liable; and that the success of the treatment will be in direct proportion to the degree of control which, by that method, we are able to secure.

A tabular statement is given of fifty-two cases treated by this method, and full details are given of twelve cases. The following report gives the details of the treatment, and the kind of cases to which it is most applicable. A vigorous and healthy man, aged 35, was admitted to the New York Hospital, April 13th, 1879. About a year before his admission he had suffered from a dislocation of the astragalus, which had not been completely reduced. He got about with the deformed limb after a time, but found walking difficult and painful; and, to make matters worse, inflammation and abscess occurred over the

most prominent point of the displaced bone, which were followed by exposure and caries of the denuded surfaces. Under these circumstances the astragalus was removed by Dr. Markoe on May 17th. There was nothing noteworthy about the operation save that the bone was very rigidly fixed in its new position, requiring a great deal of force to dislodge it, and excepting also that when the bone was at last removed the deformity was not overcome till the external malleolus had been removed to the extent of nearly three-quarters of an inch. The foot could now be brought into a promising position. A splint had been prepared consisting of a plaster-of-Paris casing extending from the knee nearly to the ankle, and attached to a foot-piece by two broad strips of brass which went wide of the ankle-joint, as they helped to support the foot-piece. By this arrangement the foot was held steadily, while, by the divergence of the brass straps, easy access could be had to every part of the ankle-joint, so that the dressings of the wound could be applied and removed without any movement of the foot or the wounded ankle. The wound, which consisted of a semilunar incision, extending from behind and below the internal malleolus in a curved line over the dorsum of the tarsus to the external malleolus, was dressed by bringing the edges together with carbolised silk sutures, a long drainage-tube having first being passed across the deeper parts of the wound from one malleolus to the other. This tube had been prepared so that the part within the wound had been perforated with a number of holes, care being taken that all that part of the tube which projected from the wound should be free from openings. The wound was then covered with the ordinary prepared carbolised gauze laid on in three or four thicknesses, first being well-wetted with one-fortieth solution of carbolic acid, and so arranged upon the surface of the wound that the ends of the drainage-tube were free as they projected on either side. This is generally accomplished by cutting holes in the dressing opposite the points of entrance and exit of the drainage-tube, though sometimes the tubes can be brought out between the folded pieces of which the dressing is composed. This, retained in position by a few turns of the three-gauze bandage, also wetted with carbolic acid solution, completed the dressing. The limb was then suspended from a framework so that it was raised about six inches from the bed, and moving easily from side to side on every motion of the patient's body. The arrangement was found extremely comfortable, and permitted the drainage from the wound to be freely discharged from the lower opening. Four times a day a solution of one-fortieth carbolic acid was thrown through the drainage-tube with an ordinary syringe, and continued till the fluid discharged at the lower opening was perfectly clear. The result of this manipulation was that the fluid forced by the syringe into the upper end of the tube, found its way freely into the cavity of the wound, distending it, and then found its way out at the lower orifice, carrying with it all the fluid secretions which otherwise would have been more or less confined within the wound. This distension of the wound by the injected fluid would not, of course, happen to any great extent if the whole tube, including its lower orifice, were free from obstruction, but it very often happened that the outlet was impeded by plugs of dried pus or by clots, and then the penetration of the fluid to all the recesses of the wound was very complete; a penetration considered so desirable that sometimes the lower orifice of the tube was pinched by

the finger and thumb, while the injection was being made, for the express purpose of securing it.

The 'through drainage' system offers, Dr. Markoe states, peculiar and very great advantages in the treatment of compound fracture. It has the advantage over Lister's method of treatment, that it does not necessitate the frequent change of dressing and movement of the injured limb. With Dr. Markoe's method the compound fracture is put up early in a plaster-of-Paris splint, with large fenestræ cut opposite the wounds. The small surface about each wound which is thus exposed is dressed with about four thicknesses of unprepared gauze, dipped in a one to forty solution of carbolic acid. The drainage tubes are brought through holes cut in the gauze, and then a gauze bandage, similarly wet, is placed round the splint to keep everything in place. No protective is used, and no macintosh. Occasionally the dressings are moistened with the carbolic acid solution, usually at the time when the wound is syringed as above described. This dressing is renewed as often as may be necessary, but of course without any movement of the fractured bone, the splint being untouched.

In speaking of the results of this method of treatment in his own hospital practice, as shown by a tabular statement of fifty-two cases, Dr. Markoe states 'that every case went through the successive stages without inflammation at any time sufficient to defeat repair, and that in every case the result was equal to the best attained in the most favourable instances of the given traumatism'.

W. JOHNSON SMITH.

KÖNIG ON THE TREATMENT OF CLUB-FOOT BY EXCISION OF A WEDGE-SHAPED PORTION OF BONE.

THE following cases are reported in the *Centralblatt für Chirurgie*, No. 13, 1880. A lad, aged 12, had been affected for about four years with double equinovarus of paralytic origin. There was extreme contracture in each lower extremity; the extremity of each foot was considerably adducted, and there was much arching of the sole, especially in the region corresponding to the junction of the scaphoid and cuneiform bones. The toes were much depressed, in consequence rather of distortion of the metacarpus than of plantar flexion of the whole foot. The patient was unable to move about, save with extreme difficulty, and on the tips of the outer toes. An unsuccessful attempt having been made to relieve this deformity, by dividing the plantar aponeurosis, Professor König performed the following operation, first on the left, and two months later on the right foot. The extremity having been rendered bloodless, an oblique incision was made along the dorsum of the foot, and then, after the tendons and soft parts had been detached from the metacarpus, and dragged aside, a wedge of bone was removed, containing the cuboid, the scaphoid, and most of the caput tali. The anterior portion of the foot could at once be restored to its normal position. The healing of the wound after this operation was retarded, in consequence of sloughing of two extensor tendons and a portion of integument. In the operation on the right foot, a straight incision about three inches and a quarter in length was made along the outer portion of the dorsum. The removed osseous wedge included large portions of the scaphoid and cuboid

bones, and portions also of the cuneiform bones. The patient made a good recovery, and at the end of a few months was able, with suitable boots, to walk well.

The subject of the second case was a girl, aged 13, affected with double congenital club-foot. The normal shape of the left foot had been established through ordinary treatment, whilst the right foot remained in a condition of extreme and obstinate equino-varus. The outer margin of the dorsum was the only portion of the extremity that could be put to the ground. There were a marked prominence in the region of the cuboid bone, and a deep angular depression on the corresponding portion of the inner margin of the foot. A long incision having been made over the prominent cuboid bone, and the soft parts displaced, a wedge of bone was removed, the base being formed by the outer surface of the cuboid, and the apex by the inner portion of the scaphoid. This patient progressed favourably until the tenth day, when she died suddenly from collapse. The necropsy revealed signs of old and extensive valvular disease of the heart, recent ulcerative endocarditis, and consecutive pulmonary changes of old and recent date.

The third case was one of extreme equino-varus of the right foot of a man, aged 19. The deformity had resulted from an injury to the extremity when the patient was five years old. The affected foot presented the characters of a paralytic equino-varus. The whole of the left extremity was incompletely developed, and smaller than its fellow. The pointing of the toes in this case also was due to flexion of the anterior portion of the foot, through displacement of the scaphoid and cuboid bones. There was extreme adduction. On the outer portion of the dorsum was a marked prominence, formed by the completely luxated caput tali. Twisting of the foot was less marked than adduction and pointing of the toes. The patient walked with difficulty, and chiefly on the prominent caput tali and the fifth metatarsal bone. An incision was made along the outer portion of the dorsum, and a large wedge-shaped portion of bone removed with the chisel, including the displaced process of the astragalus, and a large piece of the anterior process of the os calcis. The foot could now be adducted, but the pointing of the foot still persisted. It was necessary therefore to make a second incision, the foot being very broad, and to remove through this a portion of the scaphoid bone. After removal of some small projecting pieces of bone, the foot could be placed in a good position.

In some comments on these cases, Professor König concludes that excision of an osseous wedge from the dorsum of the foot is the surest and safest method with a neglected and disabling talipes, whether of the paralytic or the congenital form. Amputation in such cases would now seem to be hardly justifiable. This treatment, it is held, is safer than the method of forcible stretching, formerly practised and advocated by the author. The latter can be serviceable only in certain cases, and, when followed at once by the application of a plaster-of-Paris bandage, might result in gangrene of the extremity. The treatment by excision of a wedge of bone is more readily indicated, and, as is shown by the first case, may serve in rendering a badly paralysed foot a relatively useful limb. This method is believed to be quite safe; of course, Professor König states, with antiseptic precautions. In the second case death was due, not directly to the operation, but to heart-disease and consequent pulmonary changes.

The excision of the osseous wedge must be so

practised on the dorsum of the foot that, in correspondence with the adduction of the anterior portion of the foot on the one hand and with the pointing of the toes on the other, the removed portion of bone must be broader at its upper and outer portion. As a rule, the chisel should be applied so as to remove the most prominent part of the dorsum of the distorted metatarsus. In congenital talipes, the head and neck of the astragalus with the cuboid bone, and, where the foot is pointed, the scaphoid bone, have usually to be involved in the operation. In paralytic talipes, the wedge should be taken more from the anterior portion of the foot. A small wedge of bone is to be first taken from the outer portion of the metatarsus, either with a strong knife or with a chisel, and afterwards more bone from the middle of the foot. Before the foot can be well straightened, it is often necessary to chip away several small pieces of bone. The only joint which the surgeon has to avoid is that of the ankle. A longitudinal incision, carried over the most prominent portion of bone, is to be preferred, Professor König thinks, to the oblique incision. The latter affords more room, but would probably necessitate division of some of the tendons, and favour the occurrence of sloughing. If a second incision be needed, this should be made parallel to the first. The soft parts are next detached from the bones and joints, and held to one side. In a case of extreme talipes equinus it would be well to divide the tendo Achillis. Occasionally, as in the first of König's reported cases, it may be found necessary to divide also the plantar aponeurosis.

W. JOHNSON SMITH.

HEIDENHAIN, BERGER, AND COHN ON EXPERIMENTAL CATALEPSY.*

UNDER this title, and also under the title of Hypnotism, or, to employ the old expression of Mesmer, animal magnetism, are arranged a series of phenomena, which have once more entered into the territory of medical inquiry, since Heidenhain, Berger, Cohn, Grützner, Gscheidlen, and others, have recently recommenced their investigations on a strictly experimental basis. Hypnotism, mesmerism, and animal magnetism, have alike been the especial domain of the quack, the juggler, and the pseudo-scientific impostor. The especial occasion of these re-investigations has been the display of a person named Hansen, who showed in Breslau, before the Society of Medicine and Natural History, the usual array of effects well known to those who have witnessed the exhibitions of persons of this class by laying on of hands, stroking the skin, face, and body of the subject of the experiment; briefly, by manipulations now well and generally known since Mesmer's time, under the ill-chosen title of magnetism. Hansen put persons who were subjected to this influence in a peculiar state, resembling that of sleep or cataleptiform attack, in which all voluntary movements were abolished, so that it was, for example, no longer in their power to open their eyes or to close their mouth when opened. Deep pricks with a needle caused no sensation; the hypnotised persons remained motionless in their place, and had apparently either no consciousness of their condition, or but a very slight one. They were

* Nach Referaten, Sitzungsberichten der medicinischen. Section der schlesischen Gesellschaft für vaterländische Cultur und Originalartikeln in No. 2 bis 7 der *Breslauer Aerztliche Zeitschrift*, 1880.

Der sogenannte thierische Magnetismus. Physiologische Beobachtungen von Rud. Heidenhain Leipzig, 8°, 1880, Breitkopf und Härtel.

awakened from it, however, by breathing on the face or by a very slight blow. Many physicians, members of the society, who were thus hypnotised, were some of its best known members, including Dr. Kroner, the Assistant Physician of the Hospital for Women, and others, by whom any intentional mystification of the spectators might be considered, under the circumstances, impossible; moreover, the results shown by Hansen, in his exhibitions, were repeated with like effect by several physicians who were present at sittings, and Professor Heidenhain especially was one of the first to publish his observations in a separate pamphlet. The principal symptoms of the hypnotic condition observed by Heidenhain are such as those which have been frequently verified in this country and in France, under similar observations, and especially recently at the Salpêtrière Hospital, where a similar state of hypnotism had frequently been produced by either of these methods or by the contemplation of a strong light.

Heidenhain enumerates the symptoms as follows. First, there is more or less deep depression of the consciousness, in which sensory perceptions still remain, only without being shaped into conscious ideas. An analogous state is seen for example in a man deep in thought, who avoids objects in the street without being fully conscious of the impressions made by them. Along with these symptoms goes the abolition of voluntary movements, so that the hypnotised person imitates like an automaton all the movements which are made before him, when these are made to impress either the eye or the ear, although unconsciously; so that, for example, the hypnotised person follows when one walks in front of him with loud footsteps, or clenches his fist when that gesture is made before him. The third symptom is to a great extent an insensibility to painful impressions; and the fourth symptom is an increase of reflex irritability of the striped voluntary muscles, which only increases with the repetition of the hypnotising; so that finally, for instance, the slight striking of the ball of the thumb suffices to produce a contraction of the whole muscles of one, and later of both arms, which are thrown by it into a cataleptic condition. One of the earliest symptoms is cramp of the accommodation. The fifth symptom is that, during the hypnotic state, the frequency of the pulse and breathing are increased to an important extent; and finally, a profuse secretion of sweat breaks out. Etiologically, Heidenhain remarks that pale and anæmic persons are especially subject to hypnotism. The condition may be induced by persistently looking at an object, by weak acoustic stimuli, and weak stimuli of the skin, such as laying on of hands, stroking, etc., and especially by any stimuli which are of a slight, persistent, and impressive nature. As to the nature of the hypnotic state, Heidenhain considers that it consists in the arrest of activity of the ganglionic cells of the cortex of the brain, which is produced in a reflex manner by slight continuous stimulation of the cutaneous nerves of the face or of the nerves of sight and hearing.

Professor Berger, the well known neuro-pathologist, occupied himself at the same time as Heidenhain with the question of hypnotism, and gave an interesting address in the medical section of the Schleswig National Society for Biological Culture on the 6th February of this year. He also at once confirms the conclusion that this is not a matter of deception, but an assured fact, which may be accepted as removed from all well grounded doubt.

As a supplement to the facts already described by Heidenhain, he lays stress on the point that during the hypnotic state the activity of the sensorium is by no means abolished in all cases, but frequently remains quite undisturbed; when this is the case, there is no analgesia, but, on the contrary, hyperalgesia, and the term hypnotism is no longer suitable. He recommends the name of experimental catalepsy, which Heidenhain had already put forward, as more suitable to all the cases in question. Berger also states that he has succeeded, by laying the warm hand on the nape of the neck of the hypnotised persons, in bringing them into a condition of such marked irritative automatism that the individual was changed, as it were, into a phonograph, repeating with a monotonous voice all words spoken before him, and, of course, even those in a foreign language which he did not understand. Differing from Heidenhain, who regards the condition of hypnotism as an inhibition of the activity of the cerebral cortex, Berger puts forward the hypothesis that it belongs to a distinctly exalted condition of the infracortical and spinal central apparatus produced by the manipulations and stimulations described. At a sitting of the society on February 18th, the discussion was carried on on the questions thus raised, to which new material was contributed, which testified to the interest the matter has excited amongst leading physicians and physiologists of the university. Heidenhain offered the results of a further study of the observations of Berger on the phenomena of imitative speech in hypnotised persons, which at first appeared to defy explanation. Some approach to an explanation appeared to be suggested by the known researches of Goltz on the croaking of frogs, according to which a frog whose cerebral hemispheres have been extirpated croaks every time that the skin of the back is lightly stroked between the shoulder-blades. From this observation it follows that reflex action exists between certain sensor nerves of the skin of the back and the motor apparatus of speech in the medulla. Heidenhain assumes that a similar relation may exist also in man between the sensory nerves of the nape of the neck and the articulatory centres. He has also made an observation, that a series of hypnotised persons uttered moaning sounds when the skin of the neck between the fourth and seventh cervical vertebræ was drawn downwards with direct pressure.

Dogs whose spinal marrow has been cut through at the level of the twelfth sacral vertebra, after the completion of the healing of the wounds make a series of reflex movements with the hind limbs under the influence of the central spinal medulla as a reflex centre, isolated from the rest of the central nervous system: when in such animals the skin of the back is scratched on either side of the sacral vertebræ, they make a reflex movement of scratching with the leg of the same side. This reflex movement is often to be observed in hypnotised men; when the person subject to experiment is hypnotised standing, and the skin is irritated on either side of the last sacral vertebra, the leg of the same side is moved with a scratching movement backwards. Gscheidlen, who had attempted to hypnotise sleeping persons, reports that the aptitude of individuals for experimental hypnotism is not greater in sleeping than in waking. Heidenhain and Grützner have published a communication on half-side hypnotism, hypnotic aphasia, colour-blindness, and the lessening of the perception of temperature in hypnotised individuals (*Bresl. Aertsl. Zeitschr.*, 1880).

Professor Cohn has published another paper on Colour-Blindness and Cramp of the Accommodation in Hypnotism, and on Methods for Hypnotising the Eyes alone. We give the reference only (*Bresl. Aertzl. Zeitschr.*, Nos. 6 and 7) of these communications, not having space to describe their details.

ERNEST HART.

THERAPEUTICS AND PHARMACOLOGY.

RECENT PAPERS.

1. STEVENS.—On Treatment of Goutte by Chloride of Ammonium. (*Canada Medical Record*, Feb. 1880.)
2. SMITH, L. C.—Belladonna in Urticaria. (*Pacific Medical and Surgical Journal*, Dec. 1879.)
3. FLINT, AUSTIN.—Opium in Uræmic Convulsions. (*New York Medical Journal*, March 1880, and *Dublin Medical Journal*, April 1880.)
4. MORISON, A.—The Treatment of Dextral Valvular Disease of the Heart. (*Edinburgh Medical Journal*, March 1880.)
5. CILLEY, F. H.—Jaborandi in Dropsy. (*Boston Medical and Surgical Journal*, Jan. 15, 1880.)
6. EDDMON, A.—Manaca. (*New Preparations*, Dec. 1879.)
7. PIFFARD, H. G.—Arnica Eruption and its Possible Cause. (*Therapeutic Gazette*, April 1880.)
8. HAYDEN, A. M.—Rhus Aromatica. (*Therapeutic Gazette*, March 1880.)
9. DUJARDIN-BEAUMETZ, M.—Physiological and Therapeutic Properties of the Alkaloids of the Pomegranate. (*Académie de Médecine de Paris*.)
10. TEDENAT.—On Phosphate of Bismuth. (*Montpellier Medical*, July 1879.)
11. CHARLOUIS, M.—The Local Use of Nascent Iodide of Potassium. (*Vierteljahresschrift für Dermatologie und Syphilis*, No. 4, 1879.)
12. DE ROSSET.—Ilex Glabra. (*North Carolina Medical Journal*.)
13. PAUL, COMEGYS.—Poisoning by the External Application of Carbolic Acid. (*Philadelphia Medical Times*, May 8.)
14. ENGESSER.—Therapeutic Uses of the Pancreas. (*Deutsches Archiv für Klin. Med.*, Band xxiv: and *Gazette Hebdomadaire*.)
15. RAYNAUD, M.—Tincture of Eucalyptus in Pulmonary Gangrene. (*Journal de Médecine*, May 1880.)
16. JOLY, A.—The Treatment of Acute Pneumonia by Digitalis and Alcohol. (*Revue Médicale de Toulouse*, July 1879.)
17. DIESTERWEG.—Salicylate of Sodium in Acute Rheumatism. (*Deutsche Medicin. Wochenschrift*, No. 43, 1879; and *Centralblatt für die Med. Wiss.*, Jan. 1880.)
18. MAUREL.—On Diuretics. (*Bulletin Général de Thérapeutique*, March 30.)
19. OGLESBY.—Toxic Effects of Atropine. (*Lancet*, May 1, 1880.)
20. PETIT, L. H.—On Metallotherapy. (*Bulletin Général de Thérapeutique*, May 15, 1880.)
21. MURRELL, WILLIAM.—On Chiken in Winter-cough. (*Practitioner*, p. 331, May 1880.)
22. ATKINSON, F. P.—On the Internal Uses of Boracic Acid. (*Practitioner*, April 1880.)
23. UNDERWOOD, A. S.—On Chloride of Ammonium in Neuralgia. (*British Medical Journal*, April 1880.)
24. SNOW, H. L.—On the Joint Administration of Copaiba and Cubebs. (*Ibid.*)
25. ANDERSON.—On Iodide of Starch in Herpes Erythematousus. (*Ibid.*)
26. MURRELL, WILLIAM.—On Ergot in Diabetes Insipidus. (*British Medical Journal*, May 1880.)
27. MURRELL, WILLIAM.—On Drosera Rotundifolia in Whooping-cough. (*Lancet*, April 1880.)
28. On Recovery from Three Diachms and a half of Chloral. (*Ibid.*)

1. *Stevens on Treatment of Goutte by Chloride of Ammonium*.—Dr. Stevens of Dunham, Canada, states (*Canada Medical Record*, February 1880) that he has employed chloride of ammonium in the treatment of seven cases of common goutte, or simple hypertrophy of the thyroid gland, with most surprising and satisfactory results. Six of the patients were girls under 20, and all of them were entirely cured after about three months of treatment. The seventh case was that of a married woman, aged 40, and the mother of several children. The tumour in this case was of enormous size, and the patient suffered a good deal from disturbances of respiration and circulation. She took the chloride two or three months, and at the end of that time the bronchocele was reduced one-fourth in size, and all the circulatory and respiratory symptoms were relieved. Treatment was discontinued, because she became pregnant. The dose used in all the cases was ten grains three times a day, but Dr. Stevens thinks larger doses might be useful in old cases. No other medicine or hygienic treatment was combined with the chloride of ammonium. In the cases of the six girls, the tumour had made its appearance about puberty, but in none of them was there any evidence of menstrual derangement or of uterine disease.

2. *Smith on Belladonna in Urticaria*.—Dr. L. C. Smith (*Pacific Medical and Surgical Journal*, December 1879) gives a full emetic dose of ipecacuanha, and, after it has acted thoroughly, gives fluid extract of belladonna in small doses every two hours, until its characteristic flush of the skin is produced on the face, or until vision is considerably disturbed. This degree of impression should be maintained, gradually diminishing the dose for two or three days.

3. *Flint on Opium in Uræmic Convulsions*.—In a clinical lecture, reported in the *New York Medical Journal*, March 1880, Dr. Austin Flint, senior, enunciates a mode of treatment of uræmic convulsions which the *Dublin Medical Journal* thinks that few probably in this country have ventured to adopt. He states that there is no question in his mind that the administration of morphia in pretty free doses is of considerable service in quite a number of cases of uræmic poisoning; and that it seems to do good by placing the system in such a condition that it will tolerate the presence of a large quantity of urea in the blood. The patient whose case was the subject of the lecture was given hypodermically sixty minims of Magendie's solution of morphia, in doses of eight to ten minims between 7.30 p.m. and 4 a.m. Pilocarpine and infusion of digitalis were also given subsequently, and a rapid recovery took place.

4. *Morison on the Treatment of Dextral Valvular Disease of the Heart*.—Dr. Alexander Morison, in a graduation thesis on disease of the valves of the right side of the heart, thus sums up his therapeutic conclusions (*Edinburgh Medical Journal*, March 1880). 1. A more or less orthopneic position is best suited to many cases of organic valvular disease of the dextral valves; but there are exceptions to this rule, and the latter will probably most frequently be constituted by cases of pulmonary valvular lesion, and especially by cases of pure pulmonary regurgitation, just as we find a recumbent position best adapted to the analogous instances of aortic regurgitation. 2. The cutaneous circulation must be maintained by adequate warmth, and arterialisation of the blood by as free a ventilation as is compatible with the maintenance of sufficient heat. 3. Food must be given to patients from dextral disease under the same restrictions as in the case of other car-

diac sufferers, but fibrinogenous material must be even less consumed than in other cases, from the greater liability to spontaneous coagulation, and alcohol in one form or another is absolutely necessary, but must be cautiously administered. 4. Venesection is calculated to render signally good service in the retrograde plethora due to dextral valve lesions. 5. External applications must be employed in such cases under the same circumstances as in other forms of cardiac disease. 6. The use of ammonia, from properties peculiar to it, is indicated, but asphyxial conditions may render its combination with chlorate of potash or some other oxygenator advisable. 7. The employment of digitalis is not only useless in cases of organic disease of the dextral valves, but fraught with a danger which cannot be exaggerated, and the chief cause of its pernicious influence is probably its systolic action upon the left ventricle. 8. In functional valvular disease of the right heart, arising from ventricular dilatation, and especially in functional tricuspid regurgitation, digitalis carefully administered may prove very beneficial, by diminishing the capacity of the ventricle, and restoring or improving the competency of valvular action.

5. *Cilley on Jaborandi in Dropsy.*—The *Boston Medical and Surgical Journal*, 15th January, 1880, contains a report by Dr. F. H. Cilley of Barnet, U.S., of the following case (*Edinburgh Medical Journal*, April.) Mrs. H., aged 55, who had had dropsy during the last five years, with valvular disease of the heart, on June 18 had severe dyspnoea. She had passed no urine for twenty-four hours, and had general anasarca. Half-drachm doses of the fluid extract of jaborandi were given every four hours. Its effect was manifested in half an hour. Within eighteen hours she passed sixteen pints of urine; and profuse perspiration and salivation were induced. The dyspnoea was at once relieved. A second attack was relieved by the same treatment. The patient has had tonics during the last four months, and is now in good condition.

6. *Eddmon on Manaca.*—Dr. A. Eddmon writes as follows in *New Preparations*, December 1879 (abstracted in *Edinburgh Medical and Surgical Journal*, April 1880). Manaca is a powerful drastic, and named by Pohl *Franciscea uniflora* (Scrophulariaceæ, Salpiglossideæ), and named by Sprengel *Schwenkfeldia lincaria*. The first opportunity of seeing and trying the manaca by myself was in 1867, when I was a resident of South America, at Oannuoo, in the Amazon country. I found the manaca to be a shrub with alternate oblong acuminate leaves, flowers solitary and terminal, of a penetrating odour. Its name is not alone manaca, but it is also known by the names of gerotaca, camgauba, manaca des Juso, and in Para is mostly called mercurio vegetal. The whole plant is used for medical purposes, 'not the root alone', as stated by Dr. Hansen. The plant has a bitter, nauseating, sharp taste, as has also the root, and is one of the most important purgative drastics which Brazil has furnished up to this date. I have used manaca in my practice for one year, and would say I found it to be an emeto-cathartic, diaphoretic, diuretic alterative, and a powerful antisyphilitic. It is prescribed as a specific in snake-bites, on account of its action on poisonous matter in the blood. It is also used as an eliminant of other morbid matter by the skin and kidneys. The dose of the powdered root is five to ten grains three or four times a day. I have used a decoction of root and twigs with the same results from each, and gave half an ounce three

times a day in rheumatism and various skin-diseases with satisfactory results. After taking two or three doses of the above remedy, the patient will complain of pains about the head, profuse perspiration, and a severe itching of the skin. The green plant (bruised) is used in Para for external application to sores of various descriptions, especially those of an indolent character. The name of *mercurio vegetal* is given to manaca, on account of its employment in affections of the liver and in other diseases in which mercury is indicated.

7. *Piffard on Arnica Eruption and its Possible Cause.*—Dr. H. G. Piffard, Professor of Dermatology in the University of the City of New York, writes in the *Therapeutic Gazette*, April 1880: Erysipelatoid inflammation of the skin, following local application of the tincture of arnica, has been noticed for many years, and is usually attributed to some irritant ingredient pertaining to the arnica. It is possible, he says, that this is not the case, but that the irritant action is due to a foreign body accompanying the arnica flowers, namely, the larvæ of the atherix maculatus. As early as 1811, Mercier (*Annales de Clinique*) noticed that the ingestion of preparations of arnica flowers was sometimes followed by symptoms of grave irritation. On further investigating the matter, he found that the flowers were frequently infested with the eggs, larvæ, and remains of an insect. These he isolated, and from them obtained an extract, which he found acrid and irritating. He believed that the untoward effects of arnica were thus caused, as they were not observed when flowers free from insects were employed. Later, Buchner (*Repertorium für die Pharmacie*) also found the young caterpillars (Raupen), and at his instance Professor Appel studied their development, and ascertained that they were the young of the atherix maculatus. In examining arnica flowers, Dr. Piffard has met with the insect remains referred to, in some specimens quite abundantly. All of the cases of arnica poisoning that have fallen under Dr. Piffard's own notice have followed the use of the official tincture of the flowers; on the other hand, he has very frequently employed a tincture of the root without accident. If a wider experience confirms the suspicion that the atherix and not the arnica is really the cause of the local irritation, the use of preparations of the root should supplant those of the flowers.

8. *Hayden on Rhus Aromatica.*—Dr. A. M. Hayden of Evansville, Indiana, says (*Therapeutic Gazette*, March 1880) that the introduction of rhus aromatica has supplied the physician with an efficient remedy against that very annoying condition of the bladder which gives rise to incontinence of urine. The mode of its action seems to be through its specific tonic influence on the bladder, and particularly on the sphincters of that viscus. He has at least been unable to detect any such influence, either on the quantity or on the character of the urine, as would explain its beneficial action. Mrs. B., aged 27, the mother of two children, had, since her last confinement, eighteen months previously, been troubled with incontinence of urine. Her case was a very aggravated one, the urine being voided almost immediately on entering the bladder, there seeming to be complete paralysis of the sphincter. The condition of paralysis was probably due to pressure of the foetal head during parturition. The patient had been treated by several able physicians, but without benefit. On undertaking the case, Dr. Hayden presumed that the standard remedies had been resorted to, and gave her rhus aromatica in ten-drop doses of

the fluid extract three times a day. In three days, the lady reported herself much improved. In two weeks, the treatment being continued, the bladder was able to retain the normal quantity of urine, and the recovery was regarded as complete. In this case there was no acidity of urine to account for the incontinence, and the history pointed plainly to the sphincter as the seat of the trouble. The prompt action of *rhus aromatica* leads Dr. Hayden to suppose that the drug acts directly, on the sphincter; but whether it does so directly or indirectly through nervous influence, he does not determine.

9. *Dujardin-Beaumetz on the Physiological and Therapeutic Properties of the Alkaloids of the Pomegranate*.—M. Dujardin-Beaumetz read a paper on this subject at the meeting of the Paris Académie de Médecine on May 18, in which he postulated the following conclusions. 1. The alkaloids of the pomegranates possess real and powerful physiological properties. 2. These alkaloids induce paralysis of the motor nerves, whilst preserving intact muscular contractility. They do not attack sensibility, and seem to strike the motor nerves at once in their muscular terminations. They act like curare. 3. The sulphates of pelletierine and of isopelletierine possess very active tannic properties, and in doses of three centigrammes (1.2 grains) in a solution containing half a gramme of tannin, they induce in the majority of cases (thirty-seven times out of thirty-nine, according to Dujardin-Beaumetz, and nineteen times out of nineteen, according to Laboulbène), the expulsion of the tænia with the head. 4. New attempts should be made to apply the physiological properties of these salts in the treatment of certain diseases; in the first instance in those in which curare has already been indicated, as tetanus and rabies; in ocular affections, in which it is necessary to induce active congestion; in the fundus of the eye; finally, in certain forms of vertigo, especially in that of Menière's disease.

10. *Tedenat on Phosphate of Bismuth*.—M. Tedenat (*Montpellier Médical*, July 1879, p. 83) recommends the employment of phosphate of bismuth, which he prefers to the nitrate. The antidiarrhœal action of phosphate of bismuth is manifested in the same way as the subnitrate. In consequence, however, of its greater insolubility, the phosphate acts in rather weaker doses, especially in gastric affections. Notwithstanding the acidity of the gastric fluids, it is not in the slightest degree affected, which is but natural, since it resists strong acids, even in a concentrated form. The phosphate acts in somewhat smaller doses than the subnitrate, and the difference in activity is sufficiently great to create a superiority from this point of view in favour of the phosphate. The doses are likewise varied, according to the nature of the case. They are usually about from one to two grammes. The mode of administration is absolutely identical with that of the subnitrate. With infants it suffices to place the desired quantity on the tongue, and to offer the breast or the bottle. The salt is easily conveyed into the stomach, and it is possible by this means to administer large doses. Adults take this drug suspended in some liquid. In many cases some advantage is found in making it into sweetmeats and pastilles of about one to two grammes. They become disintegrated in the mouth, and the phosphate is gradually conveyed into the stomach without the patient having been able to perceive the presence of an insoluble salt in the mouth. The phosphate finds its application in

all the diseases in which the use of the subnitrate is indicated. It is preferable to it in every case, on account of its somewhat greater activity, and especially in affections in which the reconstituent effect, due to the absorption of phosphoric acid, finds its indication.

11. *Charlouis on the Local Use of Nascent Iodide of Mercury*.—Dr. M. Charlouis of Sumatra reports (*Vierteljahresschrift für Dermatologie und Syphilis*, No. 4, 1879) two cases of syphilitic serpiginous ulceration of the foot, treated after a somewhat novel method. After failure to produce improvement with large doses of iodide of potassium internally, and mercurial ointment locally, with occasional cauterisations with lunar caustic, the following treatment was adopted. The ulcers were pencilled with tincture of iodine, and directly afterwards covered with a layer of mercurial ointment. A sensation of heat in the part followed, lasting, however, only a short time. Within a week the ulcers healed in both cases. The author thinks the rapid and favourable result due to iodide of mercury forming at the point of application, and acting on the tissues in its nascent state.

12. *De Rosset on Ilex Glabra*.—The attention of the profession in Eastern North Carolina was first called to this plant—the ink-berry or gall-berry by Dr. J. B. Seavey. He found it to give excellent results in the treatment of malarial fevers. These experiments were made during the late war, and at a time when quinine was not to be had in civil practice, and therefore they were carried out most scrupulously. A report of Dr. Seavey's results was made to the New Hanover County Association after the war, and the summary was that a decoction of *ilex glabra* succeeded better than any of the indigenous remedies tried. Since that time there has been less need for substitutes for quinine, and the drug has again fallen into disuse. A few months ago Messrs. Sharpe and Dohme of Baltimore prepared for Dr. De Rosset, editor of the *North Carolina Medical Journal*, a fluid extract of *ilex glabra*, which has been used with the following results. In acute tertian remittent fever, the fluid extract in teaspoonful doses was given every two hours, until six doses were administered. At the end of that time nausea and purging ensued. On the second day, the day of the expected fever, the extract was given in the same doses, and at the same intervals, with the effect of nauseating and purging the patient. The paroxysm of ague was averted, but the purging was so persistent that quinine was resorted to until convalescence was established. Subsequent experience gave the same results; and Dr. De Rosset believes that on further trial, the purgative effects of the *ilex glabra* will be found superior to the antiperiodic effects. It seems, from this knowledge of the drug at any rate, that these properties will forbid its use, except in a limited number of cases in which a purgative is indicated.

13. *Paul on Poisoning by the External Application of Carbolic Acid*.—Dr. Cornegys Paul relates the following case in the *Philadelphia Medical Times* for May 8. A young convict, aged about 24, complained of the excessive discomfort caused by a crop of herpes upon his right side, extending from the nipple to the axilla. Dr. Paul ordered the part to be painted with a saturated solution of carbolic acid, with the effect of entirely relieving the pain. It was then dressed with vaseline. Two days afterwards he asked to have the acid again applied. Within twenty minutes after it was done he became faint and dizzy, very weak in the legs, and exhibited all the signs of

a general collapse. The condition lasted about half an hour, when he gradually revived. The surface covered by the carbolic acid was not more than five square inches, and the second application came into contact with only a partially denuded cuticle of much smaller extent.

14. *Engesser on the Therapeutic use of the Pancreas.*—All attempts to utilise in a therapeutic sense the very active properties of the pancreatic juice have hitherto failed. This want of success, according to Engesser (*Deutsches Archiv für Klin. Med.* Band xxiv, p. 539, and *Gazette Hebdomadaire*), is owing to the necessity by a natural tendency of first isolating the ferments, in order to administer them afterwards in the pure form. These isolated ferments being destroyed by the pepsine of the stomach in normal digestion, the only field left for their use is the very limited one of the large intestine. The pancreatic parenchyma, or even the fresh watery extract, on the contrary, retains its digestive properties whilst passing through the stomach. This point, though difficult to explain, is supported by numerous observations and experiments. Unfortunately, patients take the pancreas cut into small pieces, or pounded and passed through a sieve, with the greatest repugnance. To avoid this serious drawback, since the use of the pancreas should be greatly prolonged, the author has had many preparations made. He finally settled on the following method. The gland, cut in small pieces, was reduced *in vacuo* at 104° Fahr. to an extract, then treated during forty-eight hours by absolute alcohol, which is afterwards carefully evaporated. A coarse light brown highly hygroscopic powder is thus obtained, which patients take without disgust, and which possesses all the qualities of the fresh watery extract. If clinical observations be consulted, it will be found that the action of the pancreatic juice is clear enough, but that the indications for it remain very limited up to the present time. Fles published in 1864 the case of a diabetic patient, who ate a great deal of meat and fat, and in whose stools a quantity of fatty matter and muscular tissue were found in an unchanged condition. The use of the pancreatic juice caused these undigested fragments to disappear immediately, and they reappeared directly the administration of the drug was left off. This remarkable observation may be considered as a type of the circumstances in which the pancreatic parenchyma may be usefully employed. Engesser has obtained good results in cases of acid dyspepsia, dilatation of the stomach, nervous dyspepsia, etc., whenever the presence of undigested muscular fibres is detected in the egesta. The use of pancreatic juice has in every instance removed these fragments, but produced very slight improvement in these essentially chronic diseases.

15. *Perier on Essence of Winter Green in the Treatment of Purulent Cystitis, etc.*—M. Perier has treated a patient suffering from purulent cystitis by washing the bladder out with an antiseptic substance, hitherto more employed by perfumers than by chemists, the essence of winter green (*Journal de Médecine et de Chirurgie*, May 1880). It is a powerful antiseptic with a penetrating and rather pleasant odour, not at all of an irritating character. Unfortunately, it is but little used. Its somewhat high price would be no obstacle to its use, because it is only employed in small doses. The essence of winter green is obtained from the *gaultheria procumbens*, a shrub which grows in North America. This essence is known chemically as salicylate of methylene or salicylic methylether. It is not soluble in water, and some

difficulty is experienced in dissolving even small quantities of it. M. Perier has often had recourse to the following solution: Essence of winter green, 6 grammes; tincture of quillaya saponaria, 30 grammes; water, 1 litre. He uses this solution freely for washing out the bladder, with excellent results, and without causing the least irritation. It constitutes an excellent fluid for the washing of wounds and for simple dressings. M. Perier likewise combines winter green with vaseline, so as to make an antiseptic and inodorous ointment. He uses the following proportions: Essence of winter green, 1 gramme; vaseline, 100 grammes. He greases his sounds and specula with it, and also uses it to anoint his fingers and hand, for examination by touch. Even in the practice of antiseptic surgery, M. Perier frequently covers his hands with this antiseptic vaseline instead of washing them too often with carbolic acid and water.

16. *Raynaud on the Tincture of Eucalyptus in Pulmonary Gangrene.*—M. Raynaud, in a clinical lecture to his pupils at the Charité Hospital (*Journal de Médecine*, May 1880), speaks strongly of the good effects of tincture of eucalyptus in large doses in this affection. He referred specially to the case of a man who had been ill for three weeks, in whom the gangrene commenced as pneumonia. It soon became confirmed, and was followed by a manifest cavern under the left clavicle. This patient was in a very serious condition when he began to take the eucalyptus, but at the end of three days there was a notable improvement. The man was aged 69, and recovered, with complete disappearance of the physical signs indicating the existence of a cavern. Another of M. Raynaud's patients, suffering from pulmonary gangrene, after having been operated on for cancer of the tongue, was cured of the gangrene by the influence of the same drug, and the operation also gave a satisfactory result. In the first case, M. Raynaud intends to employ the tincture of eucalyptus in doses of from six to eight grammes a day, and to join with it Trousseau's treatment, which consists in inhalations of terebinthine. Inspiration is effected by means of a tube inserted in a bottle of the essence.

17. *Joly on the Treatment of the Acute Pneumonia of Adults by Digitalis and Alcohol.*—Dr. Albert Joly (*Revue Médicale de Toulouse*, July 1879, and *Bulletin Général de Thérapeutique*, May 30) gives an account of the results obtained by Dr. Alix in the military hospital at Toulouse, by the use of digitalis and alcohol in the treatment of pneumonia. He arrives at the following conclusions. 1. The gravity of either simple or double pneumonia, if uncomplicated, is *nil*, if its normal evolution and its natural tendency to recovery be not disturbed by ill-timed medication. 2. Its affinity with the eruptive fevers (internal herpes of some writers) seems to be confirmed by the very regular progress, of which the proof is given by tracings. 3. Pneumonia is an essentially debilitating disease, in which the temperature falls below the normal rate more than in any other inflammatory disease. It evidently results that the chief indication is to combat this debility, and to strengthen the organism by stimulants, notably by alcohol, which is also an arrester of waste. Nevertheless, as the temperature, even by its rise, often constitutes a danger, it is necessary to anticipate it, not by venesection nor by tartar emetic, which agitate and weaken the patient, but by digitalis, the advantageous effects of which cannot be denied. 4. Every fresh cause of hyperthermia should be carefully avoided from the outset, and consequently cupping must not

be allowed, as by the wound it produces and the accidents it brings on it raises the temperature in a notable way. 5. Pulmonary exudative repletion, which creates a danger by its abundance, must be carefully avoided; consequently, opium, which favours it, must not be given. It also results that cupping must be avoided, as by immobilising the chest it obstructs expectoration. These conclusions are, it is stated, confirmed by the consideration of the results obtained.

18. *Diesterweg on Salicylate of Sodium in Acute Rheumatism.*—A. Diesterweg (*Deutsche Med. Wochenschrift*, No. 43, 1879, and *Centralblatt für die Med. Wissen.*, January 1880) reports one hundred cases treated with this remedy. Of these, the disease was cut short in thirty-six in twenty-four hours, in eighty-five in forty-eight hours, in ninety-eight in seventy-two hours, in one in eighty-four hours, and one, a girl, aged 20, was uninfluenced. The amount of medicine taken was in forty-six cases 5 to 15 grammes (77 to 231 grains); in forty-one cases, 20 to 28 grammes (308 to 432 grains); and in twelve cases, 30 to 40 grammes (463 to 616 grains). In three of the cases cut short (all females) suppurative arthritis followed in the ankle, which was cured by incision and drainage. Relapses occurred during the use of the medicine in eleven cases, four in the first week and four in the second. Cardiac complications occurred only five times (and of these three had had heart disease before) in one hundred cases and twenty relapses. Pleuritis occurred three times. In one of these cases, the patient had pericarditis on admission to the hospital. Beyond this, the course of the complications under treatment by salicylic acid was favourable.

19. *Maurel on Diuretics.*—Dr. Maurel (*Bulletin Général de Thérapeutique*, March 30, 1880) has lately conducted a series of experiments on the action of certain of the most commonly used diuretics, such as potassic nitrate, chlorate, acetate, and iodide, sodic salicylate, digitalis, colchicum, and squills, the latter in the form both of tincture and of oxymel. The experiments extended over a period of forty-six days, and were undertaken on the same individuals. The general conclusions pointed to great uncertainty in the diuretic action of all these medicines; the most active was potassic nitrate, which increased the solid constituents as much as ten per cent. in the twenty-four hours. The other substances gave an increase of from five to six per cent. only. Digitalis alone gave constant results upon the excretion of water, which it notably augmented. The author believes that diuretics as a class, whether administered in health or in disease, have very little real power. In many cases, the increased excretion which they apparently induce should rather be set down to other causes, such as changes in temperature, nervous influences, or a 'crisis' in certain morbid states. The real proof of the power of diuretics would lie in their augmenting the urine at periods when it was naturally suppressed, such as in the early febrile stage of many affections; but, judged by this test, all his experiments point to their being practically inefficacious.

20. *Oglesby on the Toxic Effect of Atropine.*—Mr. Oglesby reports two cases (*Lancet*, May 1, 1880) in which toxic symptoms followed the use of atropine as a mydriatic. The first case occurred in a man, aged 70, who had undergone the operation of extraction. A solution of atropine, containing two grains to the ounce, was used twice a day during three days, after which a solution containing ten grains was sub-

stituted for it. A few days later the patient was seized with symptoms of poisoning, namely, dryness of the throat, slight delirium, and paralysis. These, however, soon passed off. In the second case, a solution of only two grains to the ounce had been used. After it had been dropped into the eye three times, the patient felt giddy and sick. The sound pupil was largely dilated; severe vomiting came on; the pulse became feeble and small, the extremities cold, and a state of complete collapse finally supervened, from which, however, the patient eventually recovered, mainly by the aid of stimulants.

21. *Petit on Metallotherapy.*—In this article Dr. Petit gives details of seven cases, chiefly of hysterical anæsthesia and hemianæsthesia, treated by the internal and external employment of metals. He also mentions a case of paraplegia in a young and nervous woman, evidently of hysterical origin, in which the metallic treatment totally failed, but in which also the author considers it was not properly carried out. Gold was first applied without effect, and copper was then substituted for it with the unexpected result of causing such intense sciatic pain that it was necessarily abandoned. In regard to this case, Dr. Petit remarks that, although the patient was insensible to gold, she was not necessarily so to silver, platinum, or zinc, which, however, were never tried; that this metal should have been applied in the form of 'bracelets' instead of large plates; and, finally, that magnets and continuous currents, which have often succeeded when other means have failed, should have been resorted to. His sixth case is a good example of the polymetallism of certain individuals. The patient was aged 17, and suffered from double hysterical amblyopia, dyschromatopsia, insufficiency of the internal recti, analgesia, and anæsthesia of the whole right side of the body, and, later on, of the left. Treatment by chloride of gold internally, and discs of metallic gold externally, for three months, resulted in the recovery of the colour-sense, while, on the contrary, the visual acuity, without any ophthalmoscopic lesion, continued to decrease. Silver was now employed together with the gold, and, within fifteen days from the application of the former metal on the forehead, sensibility returned to the right side, and all the eye and ear symptoms disappeared. Later on, all symptoms whatever of hysteria ceased, and recovery was eventually complete and permanent. Dr. Petit also cites a case of writer's cramp treated by gold internally and externally; magnets and electricity having previously failed. Four to five drops of a solution of 1 in 20 of chloride of gold were administered, and discs of the same metal were worn night and day for a month. At the end of this period the patient was so far improved as to be able to hold his pen for twelve hours daily. Other interesting cases are also given in the same periodical for March 30 and April 15. In one, apparently an unique example of paraplegia was cured by metallotherapy without transference; in another, a very obstinate tendency to contraction was overcome by the use of magnets. LITTON FORBES.

22. *Murrell on Cheken in Winter Cough.*—Cheken, chekan, or chequen, is an evergreen shrub growing in Chili, closely allied to the genus myrtus. Dr. von Des-sauer used it freely in a convent school, where for many years phthisis and hæmoptysis were frequent complaints. During two years and a half, while using this drug, he had no death from phthisis, and no fresh cases of hæmoptysis. Dr. Murrell (*Practitioner*, May 1880) used cheken in fifteen bad cases of chronic bronchitis, most of them of many years'

duration, in fact, ordinary cases of winter-cough. The dose was two drachms of the fluid extract in water every four hours, increased, usually at the end of a week, to half an ounce. The relief was decided in all cases, in most, very marked. In several cases of phthisis there was decided improvement while under the influence of the drug, but in winter-cough Dr. Murrell is satisfied it will prove a valuable addition to our remedies.

23. *Atkinson on the Internal Uses of Boracic Acid.*—In the *Practitioner*, April 1880, p. 254, the known value of this drug in the treatment of diphtheria, as shown by the experience of Drs. Ewart and Simpson, leads Dr. Atkinson to recommend its use in carbuncular disease, crupiselas, cholera, scarlatina, typhoid, typhus, and intermittent fever, in fact, in all diseases that are known to have a septic origin. The dose is five to fifteen grains; and, being tasteless, it is of great value in the case of children.

24. *Underwood on Chloride of Ammonium in Neuralgia.*—In the *British Medical Journal*, April 1880, p. 586, attention is again drawn to the very marked influence which this drug exercises over neuralgic affections, three doses curing a very obstinate case of trifacial neuralgia.

25. *Snow on the Joint Administration of Cubebs and Copaiba.*—In the *British Medical Journal*, April 1880, p. 586, the following formula is given as being at the same time both serviceable and tolerably palatable. R. Olei copaibæ, olei cubebæ, aa ʒij; liquoris potassæ, ʒiiij; tincturæ aurantii, ʒiij; syrupi, ʒij; aquæ menthæ piperitæ ad ʒviij. An ounce is to be taken three times a day.

26. *Anderson on Iodide of Starch in Lupus Erythematosides.*—The value of this treatment was well illustrated in a case seen by Dr. McCall Anderson, in consultation with Dr. Colligan of Paisley (*British Medical Journal*, May 1880, p. 652). Since then, other cases have equally benefited by use of the drug. Dr. Andrew Buchanan introduced the remedy to the profession. The following is the formula for its preparation. R. Iodi, gr. xxiv; amyli, ʒi. Triturate the iodine with a little water, gradually adding the starch, and continuing the trituration till the compound assumes a uniform blue colour, so deep as to approach black. The iodide should be dried with a heat so gentle as to run no risk of driving off the iodine, and it ought to be kept in a stoppered bottle. On no account should spirit be used in its preparation instead of water, as sometimes recommended. The dose is a heaped up teaspoonful in a draught of water or water gruel thrice a day; but it may be safely increased, even up to an ounce in some cases, if necessary to make an impression on the disease. Those who are inclined to give it a trial should take care of two things—first, that the cases are undoubted ones of lupus erythematosides and not lupus vulgaris; and, second, that the medicine is freshly prepared, and in accordance with the above directions. [In the *Lancet*, December 1876, p. 837, is a report of the uses made of iodide of starch by Dr. Bellini of Florence. He recommends it as a valuable antidote in some cases of poisoning, especially by alkaline and earthy sulphides, caustic alkalies and ammonia, and the vegetable alkaloids, for which iodide solutions are generally given. In poisoning by alkaline or earthy sulphides, he believes it preferable to all other antidotes; in poisoning by caustic alkalies, it is applicable when acid drinks are not at hand. It may be given in some cases of chronic lead and mercury poisoning, and particularly to children, in the form of syrup. In old standing cases of

syphilis, the iodide of starch has proved an excellent remedy.—*Rep.*]

27. *Murrell on Ergot in Diabetes Insipidus.*—In the *British Medical Journal*, December 1875, Dr. Murrell reported a case in which half-drachm doses of liquid extract of ergot, every three hours, reduced the urine, in twenty-four days, from twenty pints to a pint and a half, increasing its specific gravity from 1,002 to 1,017, and removing the excessive thirst and other distressing symptoms from which he had suffered for two years. The result of an examination, made in May 1880, is given at page 693 of the *Journal*, when the patient's urine was found quite natural, and he stated he had not suffered a day's illness during the last four years and a half. The ergot cured him completely.

28. *Murrell on Drosera Rotundifolia in Pertussis.*—In the *Lancet*, April 1880, p. 603, Dr. Murrell gives the notes of a man, aged 66, who had suffered from pertussis three months. There was no doubt as to the nature of the disease; the paroxysms were frequent and violent. Several remedies were tried without relief, when he was ordered to take five drops of the tincture of drosera rotundifolia (vide LONDON MEDICAL RECORD, 1878, pp. 483, 526). He took this for a week, and found that it made him worse, increasing both the spasm and cough, and making him whoop more. Half-drop doses were then ordered, and in a week he was much better. In a fortnight he was well, and able to sing bass and lead a choir, as he had been accustomed to do. The age of the patient, and the fact that the smaller doses seemed to be more beneficial than the larger ones, are points of interest.

29. *Recovery from a Large Dose of Chloral.*—In this case a medical student (*Lancet*, April 1880, p. 666) took three drachms and a half of chloral, combined with a drachm and a half of bromide of potassium. He remained unconscious for twenty hours, and eventually recovered, the means adopted to promote recovery not being stated. [In the LONDON MEDICAL RECORD, 1878, p. 489, a case of recovery is reported after 240 grains, and in the *British Medical Journal*, September 1878, p. 437, another case after 160 grains.—*Rep.*] R. NEALE, M.D.

MEDICINE.

RECENT PAPERS.

1. HOFF, Dr. J. van R.—The Rocky Mountain Fever. (*American Journal of the Medical Sciences*, Jan. 1880.)
2. DEMME.—On the Treatment of Intestinal Catarrh in Infancy. (*Jahresbericht des Berner Kinderspitals*.)
3. BELL, CHARLES.—Treatment of Dysentery in Children. (*Edinburgh Medical Journal*, Sept. 1879.)
4. JACOBI.—On Typhoid in Children. (*New York Medical Record*.)
5. PARIS, H.—Hysteria in Children. (*Journal de Thérapeutique*, May 10.)
6. CAMPBELL, ANDREW.—On the Spread of Typhoid Fever in Animals. (*British Medical Journal*, April 1880.)
7. JONES, E. HANDFIELD.—Hyperventilation in Phthisis. (*British Medical Journal*, May 1880.)
8. BUZZARD, THOMAS.—On Absence of Patellar Reflex in a Case of Diphtheroid Paralysis. (*Lancet*, April 1880.)
9. RECKETT.—On Torticollis and Ascaris Vermicularis. (*Lancet*, p. 604, April, 1880.)
10. LACEY, JOHN.—On Unsuspected Perforating Ulcer of the Stomach. (*Ibid.*)
11. BUCKLE, JOHN.—On Scarlatina in a Septuagenarian. (*Ibid.*)

1. *Hoff on the Rocky Mountain Fever.*—Dr. John Van Rensselaer Hoff, Assistant-Surgeon U.S. Army, in an article published in the *American Journal of the Medical Sciences*, January 1880 (abstract in *Philadelphia Medical and Surgical Register*), writes as follows. 1. The fever of the Rocky Mountain region is a hybrid disease, the prominent features of which are typhoid, the modifying, intermittent; it is, in fact, the typho-malarial fever of Woodward. 2. It appears during or after exposure incident to field-service; generally, though not necessarily, in late summer and early autumn, and seems to bear no relation to typhoid infection as now usually accepted by the profession. 3. At its commencement, this disease manifests itself as an intermittent of quotidian, tertian, or other form; this stage is followed (in about two weeks) by the typhoid stage, lasting in the neighbourhood of four weeks, in which typical typhoid symptoms may be observed, modified to a greater or less degree by intermittent indications. 4. The pathological anatomy of the disease is that of typhoid fever. 5. The treatment should be antiperiodic and antipyretic.

2. *Demme on the Treatment of Intestinal Catarrh in Infancy.*—Demme, in the Sixteenth Report of the Hospital for Children at Berne, observes that in the severe forms of intestinal catarrh in children who have been too early artificially fed, restoration to sucking does not suffice, and he recommends in such cases the administration of alcohol, especially pure cognac, with the addition of creasote or opium, or with the concurrent use of benzoate of soda. He prescribes cognac, 2·5 grammes, creasote 1 centigramme, powdered gum 1·5 grammes, distilled water 50 grammes, to be employed in the course of twenty-four hours between feeding times. For children some weeks old, the quantity of alcohol may be increased daily from 2 to 5 grammes. The object here is to stimulate nutrition, and at the same time to prevent the formation of the abundant crop of micrococci which, under such circumstances, Demme has found to accumulate in the intestinal glands.

3. *Bell on Treatment of Dysentery in Children.*—Dr. Charles Bell, in the *Edinburgh Medical Journal*, September 1879, after condemning the treatment recommended by Dr. Meigs for this disease, proceeds to say: The most useful treatment will be warm baths, poultices, and leeches, and small doses of calomel and James's powder, to be repeated every two hours until the fever subsides, and the bowels are gently moved, and their evacuations become more natural. If they are much tinged with blood, a few drops of the liquor ferri pernitrat, in a little sugar and water, may be given with advantage every three hours, the dose being from one drop upwards, according to the age. It is only in the most extreme cases, when there is much pain, that opium should be given, and even then it should be in very small doses. If counter-irritants are to be had recourse to, which is doubtful, the most suitable are mustard poultices, or the spirit of camphor sprinkled on spongio-piline, and closely applied over the stomach. The diet should be light and nourishing as soon as the little patient shows any inclination for food. If stimulants are required, the best is a drop or two of brandy in a teaspoonful of milk, or a little port wine diluted with water.

4. *Jacobi on Typhoid in Children.*—Dr. Jacobi, in the *New York Medical Record*, asks: Why is it that the symptoms of typhoid fever are so slight in the child, when certainly children show less resistance to a great many other diseases than is offered to the

same diseases by adults? I believe the chief cause must be looked for in the fact that the principal anatomical lesion in typhoid fever cannot be developed to such an extent in the child as in the adult. The glands in the intestinal tract and throughout the entire body are but slightly developed in infants. Peyer's patches are but small and few in number, and sometimes you will find no more than six or seven altogether. Their physiological function appears to be very limited, and thus it is that the pathological changes taking place in them are but slight. For pathological development is, as a rule, only an overstrained development of physiological function, and therefore I say that as Peyer's patches are but slightly developed anatomically and physiologically, they give rise to but slight inflammation, ulceration, etc., in the child. There is another theory which has been advanced by one of the best men among us, viz., by Gerhardt. His opinion is, that the poison of typhoid fever is introduced into the body through the respiratory organs or through the digestive organs; that it is introduced through the respiratory organs in many cases, but in more cases through the digestive organs, especially by means of drinking-water. Now, babies and little children drink but little water, and that little has generally been subjected to boiling, etc., and is in such a condition that the infecting material is destroyed. Thus infection in infants is less serious than in adults, and in his opinion this is the reason why typhoid fever is so mild in children.

5. *Paris on Hysteria in Children.*—Dr. H. Paris has written a thesis on this subject (Paris, March 1880, and *Journal de Thérapeutique*, 10 May). Notwithstanding the almost universal silence regarding hysteria on the part of pathologists who have concerned themselves with the diseases of childhood, it is quite certain that a number of very young girls suffer from this affection. Out of 430 cases recorded by Briquet, hysteria was developed in childhood; that is to say, up to twelve years of age, the period when puberty commences. Hysteria in young girls is caused by hysteria, alcoholism, epilepsy, and even phthisis in the parents; by chlorosis, moral troubles, and bad treatment. With regard to its treatment, if left to itself, it has no tendency to improve; prophylactic treatment is the most efficacious, and should consist in a sensible education, of which the objects may thus be defined; to develop the physical side, and to avoid precocious development, either of intellectual or of emotional faculties. Country life, very simple habits, walks, and active games are indicated. The children should be kept up by a tonic regimen, quinine and iron. Amongst the more special agents, the most efficacious are bromide of potassium and arsenic; the first in doses of from two to six grammes (30 to 90 grains); the second in the form of Fowler's solution, of which the daily dose, easily tolerated by children, may be as large as ten drops, given in divided quantities. Surprising results are often obtained with hydrotherapy in its various forms, prolonged warm baths, cold baths, cold applications, and especially spray and shower baths.

6. *Campbell on the Spread of Typhoid Fever to Animals.*—In the *British Medical Journal*, April 1880, p. 555, Mr. Andrew Campbell relates an interesting case where five children, living on a small farm, were attacked by typhoid fever, and, very soon after the advent of the first case, all the animals in the farmyard, except the pigs and ducks, were taken ill, their symptoms being purging and extreme de-

pression. The hens, whose roost communicated with the privy down which the excreta were thrown, suffered most, a fine brood of chickens being nearly all destroyed. The cows aborted after two days' illness.

7. *Jones on Hyperventilation in Phthisis.*—The two cases published by Dr. Handfield Jones in the *British Medical Journal*, May 1880, p. 725, are sequels to those that attracted much, and yet not sufficient, attention, which were given in the *Lancet*, vol. ii, 1877, pp. 417, 451. In case 1, a lad, aged 16, was suffering under a chronic disease of the lungs, attended with great emaciation, which was not cancerous, nor common bronchitis, and which assumed serious proportions from the time that an attack of typhoid fever was grafted on to it, a malady which is well known to give, very frequently, a fatal impetus to previously latent tuberculosis, or even call it into existence. His stay in the hyperventilated ward was fifty days. Had he remained in the ordinary wards, he could never have gone out alive; as it was, he left the hospital decidedly improved. Case 2 was that of a female, aged 21, in rapid consumption, the destructive process proceeding at a rapid rate. Under hyperventilation it came to a standstill, and a good recovery for the time ensued. [Some other very interesting papers relating to open-air treatment of disease may be consulted in the *Lancet*, July 1870, pp. 133, 167, and September 1872, p. 330.—*Rep.*]

8. *Buzzard on Absence of Patellar Tendon-Reflex in a Case of Diphtheritic Paralysis.*—The following case is related in the *Lancet* for April 1880, p. 593. A gentleman, aged 37, saw Dr. Buzzard on July 4th, 1879, having suffered in the middle of the previous April from diphtheritic sore-throat, which so prostrated him as to compel him to leave India and return to England. On the voyage he got quite well, and on landing in England, about June 20th, merely felt a slight numbness in his fingers, from which he had suffered for three weeks. After his arrival in England, the numbness extended to his feet. On July 4th, the patient both looked and felt well. There was simply a little feeling of numbness in his fingers and feet. The patellar tendon-reflex was normal in each leg. On July 7th, he complained of some want of power of grasp. July 23rd, both feet and hands felt perfectly dead. The symptoms were entirely confined to the four extremities, in which there were considerable loss of cutaneous sensibility and a certain loss of power. The patient looked well, and said he felt perfectly well, except in respect of the symptoms described. The patellar tendon-reflex was now found to be absent in both legs. A month subsequently, about the end of August, he quite recovered under the use of iron and arsenic, combined with faradism. There was a complete absence in the case of many symptoms generally present in diphtheritic paralysis. The voice never acquired any nasal tone, nor was there any difficulty in swallowing. There were no visual derangements. The numbness was confined to the extremities. The disappearance of the patellar tendon-reflex, whilst the patient was under observation, proves that this peculiar paralysis is dependent, when it affects the extremities, upon a lesion either of the spinal nerves or in the substance of the cord. A lesion of the posterior roots alone would be sufficient to interrupt the reflex; but the fact that there was loss of power as well as anaesthesia, shows that, if the lesion were not one of the substances of the cord, it must have involved either the trunks

of the mixed nerves, or the anterior as well as the posterior roots.

9. *Reckett on Torticollis due to Ascaris Vermicularis.*—This is a case reported in the *Lancet*, April 1880, p. 604, of a child, aged 3, who fell down, bruising the chest and clavicle, a fortnight before coming under observation. When seen, the head was flexed towards the right shoulder, and there was a small swelling over the sternal end of the clavicle, evidently due to effusion into the sheath of the sternocleidomastoideus muscle. There was no history of worms. The arm was bandaged to the side, and a pad applied over the seat of injury; and, a suspicion existing that possibly thread-worms might be exciting reflex spasms, a quassia injection was administered. Many thread-worms were evacuated, and at the same time the swelling passed away, and the head resumed its normal position.

10. *Lacey on Perforating Ulcer of the Stomach.*—The interest of this case lies in the fact that its subject, a woman, aged 22, was, up to the moment of attack, exceptionally healthy and active (*Lancet*, April 1880, p. 443). The only symptoms that in any way pointed to the fact of ulcer of the stomach existing, were loss of appetite, with a complaint of slight pain after eating, and an olive colour tint of the skin generally. On a *post mortem* examination, three pints of grumous serous fluid were found in the abdomen, while in the front wall of the stomach an ulcerative opening existed. On viewing the stomach from the inside, two other ulcers, rather larger than the one that had perforated the coats, were seen situated on the posterior wall.

11. *Buckle on Scarlatina in a Septuagenarian.*—In the *Lancet*, April 1880, p. 667, a case of a man, aged 70, is reported, who had gone through a typical case of the disease. R. NEALE, M.D.

SURGERY.

RECENT PAPERS.

1. DUGAS. The Diagnosis of Fractures and Dislocations. (*American Journal of Medical Sciences*, April 1880.)

2. PIÉCHAUD, T.—Puncture and Incisions in Joint-Diseases. (*Thesis.*)

3. VINCENZO.—Suppuration of an Ovarian Cyst after Tapping. (*Annali Universali di Medicina e Chirurgia*, Feb. 1880.)

4. FOLINEA, Dr.—Traumatic Lesions in Syphilis. (*Giornale Internazionale delle Scienze Mediche.*)

5. DIEZ, EZEQUIEL.—On Gunshot Wound of the Base of the Brain, followed by Recovery. (*El Siglo Médico*, No. 1376, May 1880.)

6. ESTRADA, MANUEL.—Incontinence of Urine from Fusion of the Labia Minora, and the Presence of Muscular Fibres in the Uterus. (*El Médico y Cirujano Centro Americano*, No. 2.)

7. BASEVI.—On the Treatment of Prolapsus of the Rectum in Children. (*Giornale Internazionale delle Scienze Mediche*, nuova serie, anno I, Fasc. 9, p. 940.)

8. DAVIDSON, CHARLES.—Plugging the Posterior Nares. (*British Medical Journal*, May 1880.)

9. MASSON, D. T.—On Arresting Epistaxis by a Novel Tournaquet. (*Ibid.*, p. 758, May 1880.)

10. COULING and JOWERS.—On Death from Division of the Obturator Artery in Herniotomy. (*Ibid.*, p. 695, May 1880.)

11. KÖNIG.—On a Case of Osteo-myelitis. (*Centralblatt für Chirurgie*, No. 14, 1880.)

1. *Dugas on the Diagnosis of Fractures and Dislocations.*—Dr. Dugas, professor of surgery in the Medical College of Georgia, endeavours, in the *American Journal of Medical Sciences* for April, to lay down a pathognomonic test for fractures and dislocations. In the case of injury of the limbs, he says, the problems to be solved are these: 1. Are there any physical phenomena which invariably attend fractures, and which would, therefore, become pathognomonic of such accidents? 2. Are there any physical phenomena which invariably attend dislocations, and which would therefore become pathognomonic of such accidents? 3. Is there any pathognomonic indication of sprain or contusion? In answer to the first question, he submits the following proposition. Fractures produce mobility where there existed none before. It is true that in impacted fractures, such as sometimes occur in the upper end of the femur, no mobility may exist. But this kind of fracture is very rare. Even in the so-called green stick or partial fractures usually found in the forearm, mobility may always be detected, if properly sought under the influence of anæsthesia. In reply to the second question, he offers the following proposition. Dislocations impair mobility where it existed before. This is, he believes, strictly true of all dislocations, with the exception of those of the clavicle. In fractures implicating the hip, the limb affected can be placed in any natural position, whereas this cannot be done if there be a dislocation. There is nothing in a fracture of the upper end of the femur that will prevent the patient from lying flat on his back with the limbs extended so that the knees and ankles come together. But this cannot be done in cases of dislocation of the hip, unless it may be in some old and rare case in which the head of the bone has accommodated itself to its new locality so as to increase the ability to execute certain movements. Such cases should not lessen the value of the proposition laid down as correct. The third question applies to sprains and contusions alone, and is met by proposition 3. Mere sprains and contusions occasion neither increase nor diminution of mobility. There exist only pain and tumefaction.

2. *Piéchaud on Puncture and Incision in Joint-Diseases.*—Dr. Timothée Piéchaud, in a recently published thesis, shows that the surgical treatments of the joints had to contend with unceasing opposition before it was received into general practice. In the last century, M. J. L. Petit laid down in the clearest way in the special case of purulent arthritis, the rules which at present form the basis of the new method, viz., to open early, to make large openings communicating one with the other, and to give preference to injections. In M. Boyer's opinion, purulent arthritis, hydrarthrosis, foreign bodies in the joint, and chronic arthritis are more or less amenable to incision or puncture. Before going deeply into his subject, M. Piéchaud recalls to mind the disorders brought on by suppuration in wounds of joints, detachment of the periosteum, destruction of the cartilages, necrosis, hectic, purulent infection, and phlebitis. Arthritis, which is sought for by conservative surgery, has none of these dreaded consequences; but ankylosis in its various forms is always very troublesome. The author insists on the necessity of a thorough acquaintance with the technical details of Lister's dressing before meddling with special surgical treatment. M. Piéchaud does not touch on simple puncture, as it has been practised up to the present for hydrarthrosis: but traumatic effusions of blood, Schede's

operation or antiseptic puncture, purulent arthritis, obstinate and chronic hydrarthrosis, foreign bodies in the joints, irreducible luxations, and white swelling, all affections to which arthrotomy is applicable, are treated in different articles in M. Piéchaud's work. Up to the time of Jarjavay in 1866, no one in France dared to use the trocar or lancet in effusion into a joint, distended by blood after a wound. At the present time, puncture is recognised as harmless in sanguineous effusions. A rough puncture or two, at the utmost, suffices, and should be made as soon as possible; for, after four days, clots may prevent the escape of the fluid, and in this case M. Labbé does not hesitate to use the lancet. The sometimes extremely severe pains are immediately calmed by the operation. The patient is cured in less than a month; whilst, if expectant treatment be relied on, the blood is not absorbed at the end of six months, or even longer. It is necessary for Schede's method that every effusion of which the tendency is doubtful, and which seems likely to be of long duration, should be immediately treated by puncture, followed by injection of a 3 or even 5 per cent. solution of carbolic acid. Carbolic acid does not seem to have any specific action, and may be advantageously replaced by iodine in certain obstinate cases. Complete evacuation is especially important; and washing out should be continued until the liquid returns perfectly clear. Puncture clears only recent hydrarthrosis without lesions of the deep tissues. In relapsing, obstinate, or essentially chronic cases, Lister and his disciples use large antiseptic incision. When incision is used in arthritic effusion, the result is rapid cure, complete absence of relapse, and preservation of movement. Here, M. Piéchaud follows the precepts of the new school, and inculcates the necessity for caution, whilst recording the excellent results obtained in France by M. M. Lucas-Championnière, Panas, Terrier, and Parnot. His conclusion is ambiguous, but the inference may be drawn from it that arthrotomy should be preferred to the injection of iodine, when the classic methods have been exhausted in vain. Acute suppurative arthritis, either in its simple form, or connected with osteomyelitis, either purulent pyæmic arthritis, or that consecutive on phlegmonous erysipelas; and the form consequent on wounds, blennorrhœa, or rheumatism, call for arthrotomy in various degrees, and without any hesitation. Otherwise, rupture will supervene, and there will be as a result cartilaginous or bony lesions, and fistulous passages, without reckoning all the chances of death which the patient will encounter. The majority of surgeons make large incisions; others make only an opening of a few centimètres, and place short and thick drainage-tubes in the opening. Arthrotomy is not urgent in white swelling, but it will prevent the formation of fistulous passages, and the prolonged contact with already changed joint-tissues of a notable quantity of pus, which can only keep up and increase the evil. Scooping the joint is only indicated in young subjects, for it would give rise to endless suppuration in the adult. Recently, after very large incisions, removal of the fungosities developed in the synovial membrane has been performed. In the case of foreign bodies in the joint, arthrotomy is only indicated when the pain and inconvenience are such that the patient requires it immediately; in all cases, it is superior to frequently repeated subcutaneous extraction, of which the ill-success is now thoroughly proved. Finally, in irreducible luxations, it frequently occurs that a new

joint is established in time. Incision is applicable to them, but M. Piéchaud confines it to the small joints. The method of operation is as follows. The puncture, whether simple or aspiratory, is made with a trocar, from one millimètre to one millimètre and a half in diameter, the region being previously well soaped and washed with a 20 per cent. carbolic lotion. The most prominent *cul-de-sac* is chosen; in the knee, for instance, the upper internal one. It is important to avoid the cartilages and the bones, for their lesion is sometimes, according to M. Broca, the starting point of *arthritis deformans*. The after-treatment consists in closing the little wound with a layer of ricinated collodion, and in immobilising and compressing the joint under a wadding bandage. In arthrotomy, M. Piéchaud is an advocate of large openings. In order to determine the best situation in large joints attacked by effusion, and the method of operation which would allow easy sutures, he has undertaken a series of very interesting experiments. Of these, perhaps the most important results are that the opening must be made outwards in the knee and the elbow, and in the shoulder backwards. When the capsule is opened, and the evacuation completed, the lesions of the deep portions are explored with the finger, dipped in carbolic acid; and when the synovial membrane still retains pus or adherent membranous fragments, the surfaces should be gently wiped with a small new carbolic sponge to remove the adherent débris. The sutures should then be made, drainage effected, and Lister's dressing carefully applied. [The practice of free incision in joint-disease was advocated in this country, we believe twenty years ago, by Mr. John Gay.—*Rep.*]

3. *Vincenzo on Septicæmia from an Ovarian Cyst.*—Dr. Vincenzo (*Annali Universali di Medicina e Chirurgia*, Feb. 1880) relates an interesting case of suppuration of an ovarian cyst after tapping. The symptoms commenced about twenty-four hours after the operation, and gradually became worse, until the patient was in a condition of extreme danger. The temperature was 100.75 Fahr., pulse 120, respiration 36. The symptoms and appearances were such that there could be no possibility of doubt as to the diagnosis, nor yet as to the treatment. The author undertook the operation with the more confidence, owing to the successful result of a similar case in the hands of Dr. Peruzzi (*Raccoglitore Medico di Forlì*, series iv, vol. iv, 1875) and others. The chief features of difficulty in the case were the purulent nature of the contents of the cyst, and the thinness of its walls. An incision, nearly four inches in length, was made in the linea alba, extending to within four-fifths of an inch of the umbilicus. Spencer Wells' trocar was used, and about two gallons of extremely fetid pus were drawn off through it, but unfortunately a large quantity escaped into the peritoneal cavity, and especially into the inguinal fossa. This necessitated a thorough cleansing of the parts, by which a delay of half an hour was incurred. The peduncle was large and flattened, and lay chiefly to the left side. The external wound was brought together with five deep metal sutures, and six superficial ones of carbolic silk. The strictest antiseptic precautions were employed throughout. Recovery took place somewhat slowly, partly in consequence of continual disturbances of the bowels, and partly of the extreme state of exhaustion to which the patient had been reduced previously to the operation.

4. *Folinea on Traumatic Lesions in Syphilis.*—Dr. Folinea (*Giornale Internaz. delle Scienze Med-*

iche) discusses the various ways in which syphilis may affect wounds, adducing cases in support of each of his propositions. He finds he can class all the influences of syphilis on wounds under one of the following heads, viz.: 1. Syphilitic manifestations on the wounded part. 2. At a distance. 3. Constitutional after a wound. 4. Occupying the site of a wound, itself due to syphilitic contagion.

5. *Diez on Gun-shot Wound of the Base of the Brain, followed by Recovery.*—Dr. Diez reports a remarkable case (*El Siglo Medico*, No. 1376) of recovery after a gun-shot wound, presumably of the base of the brain. The patient was aged nine years, and was accidentally wounded by a revolver bullet, nine millimètres (0.35 inch) in diameter. The projectile was discharged at the distance of a few feet only, and passed through the right temporal fossa at a point corresponding to the centre of the zygomatic arch, between the external angle of the orbit and the tragus of the ear, lodging at a corresponding point, but six millimètres higher, on the left side of the head. Among the symptoms noticed were partial loss of consciousness, recovered, however, within an hour, considerable epistaxis, exophthalmos, with complete loss of vision in the right and photophobia in the left eye. Slight cephalalgia, confined to the anterior portion of the head, was present; and a dull buzzing sound, heard subjectively, followed the least movement. Hemiplegia was well marked on the right side of the body. The ball was extracted, and almost immediately the photophobia in the left eye disappeared. The treatment consisted in water-dressing and rest; and recovery was rapid and complete. Suppuration commenced sixty hours after the injury; the exophthalmos disappeared on the seventh, and the hemiplegia on the third day. Recovery was complete on the twenty-fourth, sight having been perfectly restored, and no apparent ill effects remaining. The author asks what could have been the actual lesion in this case, and considers that the anterior lobes and optic nerve can hardly have escaped direct injury. [It seems most reasonable to suppose that the ball did not describe a straight course within the cranium, although the wound of exit was immediately opposite that of entrance. Such cases are not rare in military surgery.—*Rep.*]

6. *Estrada on Incontinence of Urine.*—Dr. Manuel Estrada (*El Medico y Cirujano Centro Americano*, No. 2) relates a case of incontinence of urine in a child, three years of age, with whom various remedies had been tried and failed. A careful examination of the external organs of generation showed that the labia minora had become united, and had sealed up completely the orifice of the vagina, leaving, however, the meatus urinarius free. The labia having been divided with a bistoury, it was then found that the hymen consisted of muscular fibres, extending in a direction from below upwards, and intercrossed. Their action would be to draw the urethra downwards, and, in this way, to exercise traction on the trigone of the bladder, with the result of causing irritation, and probably incontinence. The treatment, which was perfectly successful, consisted in dividing the parts freely, and fastening them back with sutures to prevent reapposition. The author calls attention to the necessity of examining the external organs of children carefully in all cases of incontinence of urine, where the usual remedies have failed.

7. *Basevi on the Treatment of Prolapsus of the Rectum in Children.*—Dr. Basevi (*Giornale Interna-*

zionale delle Scienze Mediche, Fasc. 9) recommends the following treatment in chronic cases of this affection. He first lightly cauterises the protruded portion with nitrate of silver, and subsequently reduces it, administering afterwards, with the view of checking any tendency to enteritis, an enema composed of tannic acid, alum, and ice-cold water. Should this treatment prove insufficient, the child is placed on a bed with the nates upwards, and steadied by two assistants, one of whom fixes the upper part of the body, while the other holds the knees elevated and somewhat abducted. The prolapsus having been reduced, the nates are brought together, and two strips of diachylon plaster, each about two inches wide, passed from one trochanter to the other, in as close proximity as possible to the perinæum. To keep them in place, a spica bandage is applied round the lower portion of the body, while a piece of gutta-percha is added to protect the plaster from the contact of faecal matter. The apparatus may be left in position for a period of two weeks.

LITTON FORBES.

8. *Davidson on a Mode of Plugging the Posterior Nares*.—In the *British Medical Journal*, May 1880, p. 659, Mr. Davidson advises a small pledget of lint, attached to a piece of silk ligature, to be pushed along the floor of the nostril; then, by compressing the opposite nostril, and the patient making a strong inspiration, the pledget is drawn into the pharynx, and as quickly hawked up into the mouth, after which the posterior nares is plugged in the usual manner.

9. *Masson on a New Mode of Arresting Epistaxis*.—In the *British Medical Journal*, May 1880, p. 758, Dr. Masson relates, in a humorous way, how the 'best blood of the church' was poured out at a clerical meeting, and where, when all the handkerchiefs of the members present had been charged with blood, and all popular modes of arresting the hæmorrhage had been exhausted, he took an elastic band from a bundle of papers, passed it over the upper lip and round to the occiput, and so adjusted this simple tourniquet as to compress the upper coronary vessels and the facial arteries as they cross the rami, as well as the large branch from the facial that forms the lateralis nasi. 'The effect was magical. The bleeding ceased at once and entirely; the very reverend face—washed, and after a short time freed from its encumbrance—beamed on us with its old benignity, the brethren settled down to business, anxious only to redeem lost time; and barring the small, but most undignified discomfort of a general want of pocket-handkerchiefs, what remained of our meeting was pleasant and edifying.'

10. *Couling and Jowers on Death from Division of the Obturator Artery in Herniotomy*.—Two cases of death, following the operation for strangulated hernia, and in both cases due to a division of an abnormally distributed obturator artery, are recorded in the *British Medical Journal*, May 1880, p. 695. In case 1, a woman, aged 62, operated upon by Mr. Couling, in the Sussex County Hospital, there was free bleeding on dividing Gimbernat's ligament, which appeared to be easily controlled. Next day, there being bleeding from the wound, incapable of being controlled, the wound was opened up and the bleeding point searched for, but without success. The patient died on the third day. On examination, the tissues in the neighbourhood of the wound were found infiltrated with blood, and this extended beneath the peritoneum as high as the umbilicus. The hæmorrhage was found to proceed from the

complete division of the obturator artery, which arose from the external iliac in common with the epigastric, and crossed over the femoral sheath and along the inner margin of the crural ring. In case 2, a woman, aged 64, operated on by Mr. Jowers, a similar position of the obturator artery was found after death, but here the artery was only partially divided, and no external hæmorrhage took place, but extensive subperitoneal effusion.

RICHARD NEALE, M.D.

11. *König on a Case of Osteomyelitis*.—Professor König of Gottingen has reported (*Centralblatt für Chirurgie*, No. 14, 1880) the following case of recovery after amputation for suppurative osteomyelitis of the femur. The patient, a labourer, aged 39, had been laid up about eight years previously with suppurative inflammation of the left knee due to an injury to this joint. The man at that time had made a good recovery, and for the subsequent five years had been able to make full use of the affected limb. At the end of this period, however, the left knee had again become swollen without any evident cause. When the case was first seen by Professor König, the left lower limb was almost quite useless; the leg was semi-flexed, and there was a slight outward bending at the knee. The tibia had been dragged backwards, and the movements of the knee were restricted to slight flexion which caused much pain. It was thought necessary to excise the diseased knee. As in every instance of this condition of joint-flexion, abduction with much backward displacement of the tibia; the operation was attended with great difficulty, in consequence of contraction and shortening of the soft parts at the back of the limb. The wound remained aseptic for eight days, but subsequently, without any recognisable cause, suppuration came on, which increased, and was associated with fever, rising at times, and very irregularly, to 104 deg. Several incisions were made, but without good results, and it soon became evident that suppuration had extended along the shaft of the femur, and that the patient, pallid, and without appetite, was suffering from severe septic poisoning. Six weeks later the affected limb was amputated at the middle of the thigh. In the division of the bone the saw passed through a large collection within the medullary cavity of putrid pus. Professor König hesitated, on account of the prostrate condition of the patient, to remove the limb at the hip, and made an attempt to save the remaining portion of the thigh by treating antiseptically the purulent osteomyelitis. By means of a sharp spoon mounted on a long handle, all the putrid and degenerated marrow was removed from the medullary cavity. This cavity was next cleansed by the introduction of plugs of cotton-wool impregnated with a concentrated solution of chloride of zinc until all bad smell was removed. The surfaces of the flaps having been washed with the solution of chloride of zinc, the wound was closed by sutures and drained, and finally covered by antiseptic dressings. A long drainage-tube was also inserted into the medullary canal. The dressings were renewed daily, and the medullary cavity washed out with a solution of carbolic acid injected through the drainage-tube. On the fifth day, as the discharge had a bad smell, the stump was laid open, and the surfaces of the flaps were again disinfected. The stump subsequently healed by granulation, and without any putrefaction of the discharge. The amputation was followed by a fall of the patient's temperature, and by much improvement in his general condition. In his remarks on this case, Professor König

states that it is doubtful whether the suppurative osteomyelitis was the result of a fresh infection after resection of the knee, or was due to a pre-existent osteomyelitic deposit. The latter view was formed by the existence made out at the time of the amputation of considerable persisted thickening along the femur. The case is regarded of some importance, as it proves the possibility of dealing successfully with acute putrid osteomyelitis—a much and justly dreaded result of injury of bone—by removal of the suppurating medulla, and disinfective cleansing of the medullary canal with a concentrated solution of chloride of zinc.

W. JOHNSON SMITH.

SYPHIOGRAPHY.

RECENT PAPERS.

1. ZEISSEL.—On the Transmission of Syphilis by Inheritance. (*Wiener Medizinische Wochenschrift*, Jan. 25 and 31, 1880.)

2.—SCARENZIO.—Congenital Syphilis by direct Influence of the Father, the Mother remaining free. Subsequent Contagion of the Mother by her Offspring. (*Giornale Italiano delle Malattie Veneree e della Pelle*, p. 16, Feb. 1880.)

3. PARROT.—Syphilitic Changes of the Bones: Syphilitic Rachitism of Infants. (*Revue Médicale Française et Etrangère*, April 3, 1880.)

4. HORTELOUP.—Notes on the Simple Chancre and on Chancrous Adenitis. (*Annales de Dermatologie et Syphiligraphie*, p. 54, Jan. 1880.)

5. LANG.—On Syphilitic Mastitis and Parotitis. (*Wiener Medizinische Wochenschrift*, Feb. 28, 1880.)

6. FOX, G. H.—Oral Chancre: Cases and Comments. (*New York Medical Journal*, p. 145, Feb. 1880.)

7. VIDAL.—The Treatment of Syphilitic Ulceration by Pyrogallie Acid. (*Bulletin Général de Thérapeutique*, Feb. 29, 1880.)

8. GAMBERINI.—Cerebral Syphilis. (*Ibid.*, p. 20.)

9. MAURIAC.—On the Prognosis and Treatment of Primary Syphilis. (*La France Médicale*, Nos. 18, 19, 20, 1880.)

10. CUTTER.—A Case of Chancre of the Nostril. (*Philadelphia Medical Times*, March 13, 1880.)

11. TAYLOR, R. W.—Clinical Notes on Neuralgia of the Sciatic Nerve caused by Syphilis. (*New York Medical Journal*, p. 235, March 1880.)

12. MARTINEAU.—Syphilides of the Vulva. (*L'Union Médicale*, April 27, 1880.)

13. DOR.—A new Mode of Treatment of Gonorrhœal Conjunctivitis. (*Lyon Médical*, March 7, 1880.)

14. HARRISON.—On the Treatment of Gleet and the Prevention of Stricture by Irrigation of the Urethra. (*Lancet*, May 15, 1880.)

1. Zeissl on the Transmission of Syphilis by Inheritance.—In the *Wiener Medizinische Wochenschrift*, Jan. 25th and 31st, 1880, Professor Zeissl discusses the question of transmission of syphilis by inheritance. He remarks that the fact of syphilis being conveyed by a syphilitic father or mother to the fœtus at the moment of conception, is now generally accepted. This, however, though most usual, is not inevitable, for the author has himself observed about nine cases in which, although one or other parent was affected with secondary syphilis, the child showed no trace of the disease. As long as general symptoms can be detected in the parents, or syphilis is latent in them, so long can they continue to bear syphilitic children. In rare cases, however, the offspring of syphilitic parents come into the world healthy, and remain so. When both parents are syphilitic at the time of conception, so much the

more certain is syphilis of the offspring. The weaker the disease has grown in the parents, the slighter will be the symptoms in the children. When syphilis is latent in the parents a year or two years after infection, even in spite of appropriate specific treatment, children, though born apparently healthy, may show symptoms, for the first time, three to six months, or even much later, after birth. Most hereditarily syphilitic children, however, are born dead, or die soon after birth. The author then proceeds to ask two questions. 1. Can a child, syphilitic from the father, infect its mother, who was healthy at the time of conception? 2. Can a child, both parents having been healthy at the time of conception, contract syphilis *in utero* through a mother who becomes infected during her pregnancy? Zeissl answers both questions in the affirmative, and relates the following case, which was reported by his son, in support of No. 2. Mr. X. infected his wife in the fifth month of her pregnancy. During the seventh month she showed a well-marked Hunterian induration, followed by signs of general infection. At the end of a normal pregnancy a full-grown child was born. The child, when eleven days old, sickened, pemphigus appeared, and death soon took place in consequence of inherited syphilis. The author sums up his views on the transmission of syphilis by inheritance as follows. 1. When one parent—either father or mother—is affected with recent or latent syphilis, the child is usually syphilitic. In rare cases, however, syphilitic parents procreate healthy children, especially if the parent be only suffering from gummata at the time. 2. If a child be procreated by healthy parents, and the mother become infected during pregnancy, the child may become infected through the placental circulation. 3. If a healthy woman be impregnated by a syphilitic man, and bear in her womb a fœtus which is syphilitic from the father, she becomes, almost without exception, syphilitic herself; and the later forms of syphilis most frequently show themselves in her. Whether infection takes place through the sperm of the syphilitic man, or through the placental circulation, is not yet decided; but Zeissl thinks the mother mostly becomes infected through the placental circulation. He has never seen a woman who was not at least suffering from latent syphilis when she bore a syphilitic child. As proof that a woman can acquire syphilis from her fœtus *in utero*, the author puts forward two cases. In the first case, Mr. S. was treated by Zeissl for specific palmar psoriasis. This patient, in spite of warning, had intercourse with his still healthy wife, who, during the next two years, bore two hereditarily syphilitic children, which died soon after death. After her first conception the mother began to grow pale and to lose her hair; and, during her second lying-in, she suffered from syphilitic palmar psoriasis. Zeissl states that during the two years, up to the period of the syphilitic eruption, he examined this woman almost daily, and can positively exclude the overlooking of a primary sore. In the other case, Mr. K. was treated by the author with mercury, in 1865, for constitutional syphilis. In 1867, Mr. K. married. His wife, whom Zeissl examined almost daily, bore, in 1868, a male child, who suffered from symptoms of hereditary syphilis, and who was, in 1879, treated by Arlt for specific iritis. The mother subsequently bore a vigorous boy, who showed slight signs of hereditary syphilis, soon dispelled by specific treatment. The mother, after her first lying-in, had a maculo-papular syphilide and psoriasis palmaris; but

in this case, also, the author affirms that he can guarantee the absence of any primary sore. [The last two cases are remarkable for the length of time during which Professor Zeissl was able to keep the mothers under such close observation, that he feels able to assert that no primary sore had been present throughout. Instances are probably rare in which a lady consents to an almost daily examination for a period of two years.—*Ref.*]

2. *Scarenzio on the Transmission of Syphilis, directly from father to child, the mother remaining free. Subsequent contagion of the mother by her offspring.*—The following case is reported by Scarenzio (*Giornale Italiano delle Malattie Veneree e della Pelle*, Feb. 1880, p. 16). A healthy and good-looking young woman, aged 19, with no personal or family history of syphilis, married, in December 1874, a young man of fine and robust appearance, who had lately returned from military service, and who had suffered from ulcers of the genitals and non-suppurating adenitis, which got well under simple treatment. He had no traces of disease at the time of marriage, nor afterwards. In September 1875, the wife, without having perceived any signs of syphilis during pregnancy, was confined of a weak puny male child, with a reddened skin. When the child was a month and a half old, it became jaundiced, and had blennorrhagic conjunctivitis, which almost entirely deprived it of sight. The redness of the skin, meanwhile, extended from the lower half of the belly to the upper part of the thighs, pustules being scattered here and there. At the seventh month, ulcers appeared at the angles of the mouth, accompanied by copious secretion of saliva. The child had never been suckled by anyone except its mother, nor had the mother suckled any other infant. At this time, a hard sore was noticed on the mother's right nipple, and adenitis in the corresponding axilla. A lichenoid eruption of both forearms followed. The mother now came for treatment. Syphilis being diagnosed, she was admitted, with her baby, into the venereal ward of the hospital, on May 13, 1876. On admission, the mother had still a papule with proliferated base on the nipple, cutaneous rash, and angina. She remained in hospital thirty-eight days, all the signs of syphilis having disappeared under subcutaneous injections of calomel. The child died of tabes, fourteen days after admission. In July 1877, the mother bore another male child, which had a pustular skin-rash, she herself also suffering from sore-throat, and a reopening of the sore of the nipple. Mercury and iodide of potassium soon got rid of the symptoms, and there was no further outbreak until November 1879, when she returned to the hospital on account of a discharge, which was found to be due to granular metritis. At this time the glands in the right axilla were still indurated, but there was no other sign of syphilis about her body. The author considers that this case once more demonstrates—1. That syphilis can reach the child directly from the father; 2. That the mother may escape; 3. That this is proved by the fact that she can become infected shortly after her confinement; 4. That it is imprudent to allow a new-born syphilitic child to be suckled by a mother who, during pregnancy, has not shown signs of general syphilis; or by a hired nurse, unless she is known to be syphilitic. [This case, in common with most of those brought forward as exceptions to 'Colles' law', fails in several important particulars. The want of evidence proving syphilis in the father, and the absence of information as to any medical examination

of either mother or child till eight months after the birth of the latter, are quite sufficient to make us hesitate in accepting the conclusions drawn by the author of the paper.—*Ref.*]

4. *Horteloup on Simple Chancre and Chancrous Adenitis.*—M. Horteloup (*Annales de Dermatologie et de Syphiligraphie*, Jan. 1880, p. 54), begins his paper with the remark that the soft chancre shows, of all venereal diseases, the greatest variation as regards the frequency of its occurrence. Thus, about 1865, there were admitted at the Hôpital du Midi, three simple chancres to two syphilitic ones. During the siege of Paris, the Commune, and the following year, there was a considerable increase in the number of simple chancres; but in 1873, and especially in 1874, a change took place, and simple chancre became almost an exception. At the end of 1878, however, an increase again occurred, which was kept up during 1879. M. Mauriac has dealt with this subject in a *mémoire*, entitled, *De la Rareté Actuelle du Chancre Simple*. M. Horteloup then proceeds to formulate the two following conclusions with regard to chancrous adenitis, and states that he hopes hereafter to fully establish their truth by more extended observation. 1. *An adenitis produced by the transport of chancrous pus to the gland may present all the characters of a simple inflammatory adenitis.* In such cases, the aspect of the wound is so variable that inoculation alone can remove the uncertainty. The author has met with cases where everything indicated simple adenitis, and yet inoculation gave a positive result, as in the following case. On June 14th, 1879, a man, aged 22, was admitted to the Hôpital du Midi with two simple chancres of fifteen days' duration. In the left groin was a red, non-fluctuating swelling. Three days later, deep fluctuation could be made out, and an incision was made. The rapid course of the bubo, and the aspect of the chancres, suggested a virulent adenitis. The pus of the bubo was inoculated on the patient's flank the day after incision. In forty-eight hours a characteristic pustule appeared at the site of the puncture, and progressed regularly for eight days, when it was destroyed by cauterisation. It was thus certain that the bubo was a chancrous one. It had, however, none of the usual characters of the virulent bubo; the edges of the incision did not ulcerate, or become irregular, or separate; the floor of the wound granulated healthily, and healing was complete by the twenty-fifth day. Judging from this and other similar observations, the author thinks that it is impossible to be sure of the nature of adenitis in the absence of inoculation. 2. *Chancrous pus conveyed to the glands may there undergo an incubation of several months without manifesting its presence.* The following case, in Horteloup's opinion, proves beyond doubt that the period of incubation of chancrous adenitis may be very long. E. V., aged 26, was admitted on March 12th, 1879, with suppurating adenitis of the left groin. He had contracted a subpreputial chancre at the beginning of Feb. 1879, and had been treated as an out-patient at the Midi. On admission, the chancre was healing. The bubo was incised, and healed rather quickly, without showing any virulent character. On April 15th the patient went out, having no trace of his chancre and no swelling of the inguinal glands. In the middle of July he felt pain in the groin, and returned to consult Horteloup, who could find no swelling of the inguinal glands. No lesion of the penis or anus could be discovered, and the man, who had examined himself with great

care, affirmed that he had had nothing since the chancre in the preceding March. In spite of palliative treatment, the patient continued to suffer, and, at the end of August, some puffiness about the glands in both groins could be made out. On November 19th, the patient was readmitted with two violet-red fluctuating buboes. Both were incised, a drainage-tube being inserted into the right one. The day after incision, inoculation was practised with success. Moreover, the man accidentally inoculated himself on the forehead. The left bubo became phagedenic. Here was a man, says M. Horteloup, who suffered from double virulent buboes, the origin of which must be referred to a chancre which had been healed for three months. The author finds it difficult to believe that the patient could have had another chancre which had escaped observation, for the man was very nervous, and had carefully and frequently examined himself. Besides, M. Horteloup had not lost sight of him since the pain came on in July, so that a sore would not have been likely to escape notice.

5. *Lang on Syphilitic Mastitis and Parotitis.*—Professor Lang, of Innsbruck, reports the following case (*Wiener Medizinische Wochenschrift*, Feb. 28, 1880). A woman, aged 39, came under Dr. Lang's care on 14th January 1879. She said she had enjoyed good health until four years previously, but since that time had never felt well. Her first symptoms had been headache, which lasted during a whole winter; soon afterwards, sores appeared on the neck, which lasted a year. Another similar sore on the upper lip had healed in two months, by the application of caustic. Two years ago, larger and deeper ulcers appeared on the left side of the neck; these healed without treatment, in the summer of 1878. In November of the same year, she had pain in the throat, which was relieved by cod-liver oil. Eight days ago, she had pains in the stomach, which soon abated. A few days after that, the right breast became painful. On examination, the woman was found to be badly nourished and weak. The left breast was flabby and wrinkled; the right breast was enlarged, tense, and elastic, and the skin over it reddened. Examination of the right breast caused considerable pain, and revealed the presence of a swelling of the size of an egg, connected, towards the periphery of the gland, with acini, which were thickened and as large as peas. The left parotid region was somewhat swollen, but this had not been noticed by the patient. On the soft palate and posterior wall of the pharynx were several large scars. The left palato-glossal arch was red and irregular from recent deposit. To the left of the uvula was a small ulcer. The epiglottis was defective on the left side. There were some cicatrices about the neck. Under the inunction of mercurial ointment and extract of belladonna, the pain in the breast soon abated, but the left parotid became painful, and the temperature rose to 101.5 deg. F. On January 21st, an incision was made into the parotid and, pus escaped. On the 27th, only a little serum exuded from the incision, but the swelling was still so considerable, that the mouth could only be opened very slightly. After three weeks the swelling was much diminished. On February 21, a daily dose of fifteen grains of iodide of potassium was prescribed. On February 26, mercurial inunction having been continuously kept up, the swelling of the breast had quite disappeared, and the parotid swelling was hardly perceptible; the infiltration of the palate, however, was scarcely altered. On March 10 the patient left the hospital,

the mastitis, parotitis, and the ulcer near the uvula, having all disappeared. Some infiltration of the palatal arch, however, remained. The woman had taken, in all, 105 grains of iodide of potassium, and had rubbed in 720 grains of grey ointment. [We fail to see any grounds for the application of the term 'syphilitic' to the abscess of the parotid region.—*Rep.*]

6. *Fox on Oral Chancre.*—Dr. G. H. Fox reports (*New York Medical Journal*, Feb. 1880, p. 145) a case in which several members of a family were infected with syphilis, the supposed source of the disease being a female lodger, who had whitish sores on her lips, and who complained of 'piles'. A little boy, aged 2 years, who was frequently fondled by the lodger, was the first victim. The child soon suffered from a sore on the tongue, and lumps in the neck, followed by a copious eruption over the body. The mother of this child then acquired a sore mouth, with submaxillary swelling, and subsequently spots about the body. Then a daughter, aged 8, had a syphilitic chancre of the mouth. Next the father became affected, the initial lesion being, in his case, on the gum. Afterwards, the baby, 5 weeks old, was brought to Dr. Fox, suffering from a papular syphilide, and soon died. The cases were not seen by Dr. Fox until the secondary eruption had appeared. The author refers to other cases of syphilis, where the initial lesion was in the oral cavity, and adds some remarks on the diagnosis of syphilitic primary sores, when situated in this locality.

7. *Vidal on the Treatment of Syphilitic Ulceration by Pyrogallic Acid.*—M. Vidal made his first experiments with pyrogallic acid (*Bulletin Général de Thérapeutique*, February 29th, 1880) in psoriasis in June, 1878, and has since employed it with success in the treatment of venereal ulcers. A man was inoculated with the matter of his soft chancre at two places on the abdomen. Phagedæna attacked the punctures, as well as the original sore. The sore on the penis became as large as a franc, that of the right side of the abdomen increased to the size of a five-franc piece, and that of the left side of the abdomen to the size of a two-franc piece. Under repeated cauterisation with sulphate of copper the ulcers improved for a time, but again relapsed. At the end of a month, M. Vidal made use of an ointment composed of one part of pyrogallic acid to five parts of vaseline. Three applications were made during three successive days. The pain was moderate, and only lasted from eight to ten minutes. The sores then decidedly improved, and after three more applications healing rapidly took place. Subsequently, M. Vidal used the same ointment for ordinary chancres, and in two cases rapid and complete cure followed the third application. Once the pure acid was applied, but was no more effective, perhaps even less so, than the ointment. In one case, auto-inoculation on the third day, after a third application of the ointment, gave a negative result.

9. *Mauriac on the Prognosis and Treatment of Primary Syphilis.*—M. Mauriac, in *La France Médicale*, March 3, 1880, and following numbers, considers, at some length, the prognosis and treatment of the primary manifestation of syphilis. The chancre is looked upon by Mauriac as the first sign of a general constitutional disease of indefinite duration. Unfortunately, we have not yet discovered any rules which permit us to foretell, with any certainty, from the character of primary chancre, what will be the number, nature, pro-

gress, duration, etc., of the later manifestations. The primary lesion, when extensively ulcerated or phagedenic, may, to a certain extent, lead us to expect a grave form of early outbreak of the constitutional disease; but it does not give us any exact information as regards the prognosis of the later periods, nor as to whether visceral lesions are likely to occur or not. With respect to the prevention of general syphilis by excision of the initial lesion, the experiments of Auspitz, Unna, and Kölliker, are referred to; and the author states that M. Paqvalin, of Abo, Finland, informed him that he had cut out infected chancres in eighteen cases, in one of which he had also removed the inguinal glands. The chancres were of one or two weeks' duration. In no case were general symptoms prevented. M. Paqvalin also had under observation two men who had had intercourse with the same syphilitic woman. One of the two men got the skin of the penis chafed during coitus. The excoriated spot was excised at the end of eight days. No syphilis appeared. The other man had an infecting chancre at the end of thirty days. M. Mauriac thinks that, although the practice of excision has not yet given proof of being of incontestable value, it should not, therefore, be neglected. However, that this abortive method may be placed beyond criticism, several conditions, rarely found in the same person, are necessary. First, one ought to be sure of the diagnosis. But, asks Mauriac, is this possible during the first few days of the sore, and before adenopathy has appeared? And if the glandular enlargement were already present, would it not be too late to prevent general syphilis?

10. *Cutter on a Case of Chancre of the Nostril.*—Dr. Cutter, Physician to the Kaitakushi Hospital, Sappow, Japan, reports (*Philadelphia Medical Times*, March 13th, 1880), that he was consulted in May 1879 by a man, aged 25, who complained of severe pain in the throat, with difficulty of swallowing. On examination, the left tonsil was seen to be enlarged and ulcerated, the ulcer being excavated and having a ragged edge. The left anterior submaxillary and posterior auricular glands were enlarged. In a few days, under treatment, the ulcer healed, and shortly afterwards there were white pellicles in the mouth, and the posterior cervical glands became hard. The patient had not had sexual intercourse for some months. Nothing could be found on the genital organs, nor anything like an initial lesion elsewhere about the body. He now related that in March he had had a painful lump in the left nostril, accompanied by slight discharge. The lump disappeared after some days. On examining the nose a small cicatrix was found on the mucous membrane of the ala of the left nostril. This was considered, by Dr. Cutter, to be the scar of the primary manifestation of syphilis. Mercury was now given. Sore throat, alopecia, and a papulo-pustular eruption followed; and in July the man suffered from osteocopic pains in the wrists and shins.

11. *Taylor on Neuralgia of the Sciatic Nerve caused by Syphilis.*—Dr. R. W. Taylor (*New York Medical Journal*, March 1880, p. 235) begins his paper by remarking that the various manifestations of the action of syphilis upon the sciatic nerve have never been carefully and properly studied, so that we are now scarcely more advanced in our knowledge than in 1859, when Gros and Lancereaux and Lagneau wrote on syphilis of the nervous system. After noticing the cases and views of those who have already written on the subject, Dr. Taylor proceeds to give particulars of four cases treated by

himself. CASE I. A commercial traveller, aged 24, well built and healthy, consulted Dr. Taylor in Feb. 1869, having an indurated nodule of the prepuce, accompanied by enlarged inguinal glands. Roseola followed. Mercury was prescribed. In September there was general glandular enlargement, with other signs of syphilis. The patient complained of headache, and of pain in the course of the right anterior crural and sciatic nerves. The sciatic pain was more severe than the crural, was present more or less during the whole day, and became much worse at night. The headache and the crural pain came on gradually about four o'clock in the afternoon, increasing towards night. Neither the patient nor his family had ever suffered from any form of neurosis. Quinine and blisters failed to give relief; but, on the sixth day after beginning mercurial inunction, he had very little pain. The inunction was continued for thirty days, during which time he did not suffer from his pains, and his weight increased ten pounds. Iodide of potassium was subsequently given for a time, and the inunction was then resumed for a month. In the summer of 1870, he had a mild relapse of the sciatic pain, which soon ceased under mercurial treatment. Dr. Taylor remarks that this is the only instance he has seen of syphilitic neuralgia of the anterior crural nerve. The pain began at the crural arch, and ended at the inner aspect of the knee. It was accompanied by slight pain of the same side of the scrotum. The second case is also an example of sciatica in secondary syphilis, but the patient had previously suffered from sciatica on the left side, at the same time as an attack of gonorrhœa, accompanied by right epididymitis and synovitis of the right knee-joint, for which he was treated by Dr. Taylor. The man subsequently contracted syphilis, and during the secondary eruption the affection of the left sciatic nerve returned. The sciatica proved very obstinate, and required several months' anti-syphilitic treatment for its relief. Dr. Taylor considers this a good illustration to show that the syphilitic diathesis can complicate and perpetuate a simple neurosis. In the third case a man, who had contracted syphilis six years before, was attacked by hemiplegia, having at the same time gummata about his arms. He partially recovered from the hemiplegia, but within a year of the attack began to suffer from pain in the right sciatic nerve. In about six months the patient was nearly cured by mercurial vapour-baths, iodide of potassium, and various local remedies. The last case was treated by Dr. McBride and Dr. Taylor. A man, aged 40, eight years syphilitic, had for six years suffered from gummata of the back. In 1871 he had a large infiltrated patch in the left gluteal region, with an ulcer two inches deep. When this was at its height, pain came on in the sciatic nerve, probably due to pressure by the gummy infiltration. Under anti-syphilitic treatment the patient was cured in six months, but afterwards had return of the pain at times. Dr. Taylor concludes by mentioning a fifth case of sciatica, which was caused by compression of the nerve by syphilitic exostoses of the right ischium.

12. *Martineau on Syphilides of the Vulva.*—M. Martineau (*L'Union Médicale*, April 27th, 1880) follows Fournier's division of vulvar syphilides into four varieties—1. Erosive; 2. Papulo-erosive; 3. Papulo-hypertrophic; 4. Ulcerating. The erosions are generally regular and rounded in shape, with a rosy, polished, non-secreting surface. The second variety is characterised by the presence of papules of varying size, and with indurated bases. The indu-

ration, however, is sometimes very slight, or may be altogether absent. Superficial ulceration may be present, covered by a greyish false membrane. In the third variety the papules are larger and more prominent, red, with hardened bases. While scarcely eroded at first, these papules may afterwards become the seat of irregular and deep ulcerations, which may become confluent. The fourth variety is a later affection than the preceding. The ulcers may appear on any part of the vulva, but prefer the labia majora, the vestibule, and the vulvo-vaginal orifice. The ulcerations may be large, and are often prolonged into the entry of the vagina. The floor of the ulcer may be smooth, or rugose and unequal. The borders are sharply defined and raised. The base is never indurated.

13. *Dor on a New Mode of Treatment of Gonorrhæal Ophthalmia.*—M. Dor, of Berne, remarks (*Lyon Médical*, March 7, 1880), that since Graham Brown published, in October 1877, his *Researches on Diphtheria*, and came to the conclusion that benzoate of soda is a very powerful disinfectant, he has not hesitated to employ that salt in all cases of purulent ophthalmia in new-born children that have come under his care, as well as in a case of diphtheritic conjunctivitis. The benzoate of soda was, however, only employed as a disinfectant, tannin being also used as a curative agent. The following case of gonorrhæal ophthalmia was thus treated. A man, aged 20, suffering from gonorrhœa, was, when first seen by the author, suffering from purulent ophthalmia of both eyes, of four days' duration. M. Dor prescribed iced water compresses, and a solution of benzoate of soda (1 in 20), and solutions of tannin (1 in 10, and 1 in 100) as eye lotions, to be used every ten minutes. The next day the eyes were less painful, and in five weeks were well, the cornea being intact.

14. *Harrison on the Treatment of Gleet by Irrigation of the Urethra.*—Mr. Reginald Harrison (*Lancet*, May 15th, 1880) states that he has obtained highly satisfactory results from irrigation of the urethra by means of a small Higginson's syringe, and a sufficiently resisting vulcanised India-rubber catheter. A solution of sulpho-carbolate of zinc, in the proportion of half a teaspoonful to a pint of water, is recommended. The catheter should not be larger than a No. 6 of the English scale, and should be six inches in length; it is to be passed completely into the urethra, merely allowing room for connection with the syringe-pipe. Whilst injecting the fluid, which should be done slowly, its escape may suddenly be stopped for a few seconds in order that the astringent lotion may be forced into the lacunæ of the urethra. The operation should be repeated at least twice in the twenty-four hours.

ARTHUR COOPER.

DISEASES OF THE THROAT.

RECENT PAPERS.

1. BÆCKEL.—Adhesion of the Vocal Cords after Tracheotomy. (*Lancet*, Dec. 27, 1879.)

2. MACEWEN.—On Introduction of Tubes into the Larynx through the Mouth, instead of Tracheotomy and Laryngotomy. (*Monatsschrift für Ohrenheilkunde, etc.*, No. 1, 1880.)

3. ASCH.—Stenosis of the Larynx from Syphilis: successful Dilatation with Metallic Sounds. (*Archives of Laryngology*, vol. i, No. 1, 1880.)

4. BÉCLARD.—A New Laryngeal Dilator. (*Annales des Maladies de l'Oreille, du Larynx, etc.*, Feb. 1880.)

5. BARLOW.—Congenital Syphilitic Disease of the Larynx. (*British Medical Journal*, April 17, 1880.)

6. STURGE.—Congenital Syphilis of the Larynx. (*British Medical Journal*, April 17, 1880.)

7. PARTHON DE LAMALLERÉE.—A Study of Syphilitic Laryngitis. (*Paris*, 1880.)

8. REDON.—Preliminary Tracheotomy. (*Annales des Maladies de l'Oreille, du Larynx, etc.*, Feb. 1880.)

9. BARTSCHER.—A Statistical Contribution to Tracheotomy. (*Deutsche Medicinische Wochenschrift*, Nos. 3 and 4, 1880.)

10. SHEPPARD.—Tracheotomy in Croup. (*Students' Journal and Hospital Gazette*, March 18, 1880.)

11. MASTIN.—Tracheotomy for Croup: Analysis of 863 Operations. (*Gaillard's Medical Journal*, Jan. 1880.)

12. KÖRTE.—Certain Rare Diseases which follow Tracheotomy for Diphtheritis. (*Centralblatt für die Medicinischen Wissenschaften*, No. 4, 1880.)

13. MOIR.—Croup: its Nature and Treatment. (*Edinburgh Medical Journal*, April 1880.)

14. MOURE.—The Differential Diagnosis between Syphilis and Laryngeal Phthisis. (*Inaugural Thesis, abstracted in Annales des Maladies de l'Oreille, du Larynx, etc.*, Feb. 1880.)

15. CHUQUET.—A Case of Ulcerous Affection of the Larynx, probably of a Tuberculous Nature, mistaken for Lymphadenoma of the Tracheo-Bronchial Glands. (*Annales des Maladies de l'Oreille, du Larynx, etc.*, Feb. 1880.)

16. BEREGSZÁSZY.—On Herpes Laryngis. (*Wiener Medizinische Presse*, No. 20, 1879.)

17. FERNET.—Herpes of the Larynx. (*Bulletins de la Société Clinique de Paris*, tome ii, 1879.)

18. BRAULT.—Xanthelasma of the Larynx, Trachea, and Bronchi in a Case of Hydatid Cyst of the Liver. (*Philadelphia Medical Times*, No. 319, 1880.)

19. CAZIN.—On Lupus of the Soft Palate and Fauces, and Scrofulous Ulceration of the Face, cured by an Attack of Erysipelas. (*Annales des Maladies de l'Oreille et du Larynx*, Feb. 1880.)

20. GLASGOW.—Papillomatous Growths on the Vocal Cords of a Child, successfully removed. (*St. Louis Courier of Medicine*, No. 3, 1880.)

21. NAVRATIL.—Tumour of the Larynx. (*Orvosi Hetilap*, No. 24, 1880.)

22. BOCHEFONTAINE.—Tumour in the Ventricle of the Larynx of a Dog. (*Comptes Rendus de la Société de Biologie*, 1879.)

23. SANDS.—Cancer of the Larynx; successful Removal by Thyrotomy; Malignant Disease of the Suprarenal Capsule, Kidney, and Ureter. (*New York Medical Record*, Jan. 10, 1880.)

24. KOCH.—Contribution to the Study of Laryngeal Cancer. (*Annales des Maladies de l'Oreille et du Larynx*, Feb. 1880.)

25. HEATH.—Spindle-celled Sarcoma of the Thyroid, involving the Larynx: Secondary Deposits: Death. (*Medical Times and Gazette*, Dec. 13, 1879.)

26. HEINZE.—Cysts of the Vocal Bands. (*Archives of Laryngology*, vol. i, No. 1, 1880.)

27. SMITH.—On a Case of Recurring Hæmorrhage from the Right Vocal Cord. (*Ibid.*)

28. SHURLEY.—On a Case of Primary Phlegmonous Inflammation of the Right Vocal Band. (*Ibid.*)

29. LEFFERTS.—Chorea of the Laryngeal Muscles (*Chorea Laryngealis*). (*St. Louis Medical and Surgical Journal*, Feb. 5, 1880.)

30. SCHRÖTTER.—Laryngeal Chorea. (*Allgemeine Wiener Medizinische Zeitung*, No. 7, 1879.)

31. MASSEI.—Laryngeal Chorea. (*Giornale Internazionale delle Scienze Mediche*, No. 16.)

32. DAV.—Laryngismus Stridulus. (*Medical Press and Circular*, Feb. 11, 1880.)

33. URBINO.—A Case of Bilateral Paralysis of the Posterior Crico-Arytenoid Muscles: Tracheotomy. (*Lo Spesimentale*, Dec. 1879.)

34. PORTER.—Pressure upon the Recurrent Nerve. (*Archives of Laryngology*, No. 1, vol. i, 1880.)

35. FOURBIN.—Laryngeal Paralysis following an Injury to the Spinal Nerve. (*Annales des Maladies de l'Oreille et du Larynx*, No. 6, 1879.)

36. KOCH.—Wound of the Larynx caused by a Pitchfork. (*Annales des Maladies de l'Oreille et du Larynx*, Feb. 1880.)

37. TEMPESTI.—Death caused by the Entrance of a Fish into the Larynx. (*Monatsschrift für Ohrenheilkunde*, No. 1, 1880.)

38.—BLAIR.—A fatal Case of Enlarged Tonsils. (*Philadelphia Medical and Surgical Reporter*, vol. xliii, 1880.)

39. SMITH (GILBERT) and WALSHAM.—A Case of Extreme Stenosis of the Pharynx the Result of Syphilis, with Remarks. (*British Medical Journal*, April 17, 1880.)

40. CABOT.—On a Case of Retropharyngeal Tumour. (*Archives of Laryngology*, vol. i, No. 1, 1880.)

41. ADAM.—Acute Laryngitis from Sulphuric Acid: Tracheotomy: Recovery. (*Monatsschrift für Ohrenheilkunde*, No. 1, 1880.)

42. DEPRÉS.—Ligature of both Lingual Arteries for a Vascular Tumour of the Tongue. (*Bulletin Général de Thérapeutique*, Dec. 1879.)

43. GROSS.—1. Irritative Cough from Elongated Uvula. 2. Progressive Dyspnoea and Aphonia: Stenosis of the Glottis caused by Intralaryngeal Growths. (*The Jefferson Medical College and Clinical Record*, Philadelphia, Jan. 1880.)

1. Bæckel on Adhesion of the Vocal Cords after Tracheotomy.—At a recent meeting of the Society of Medicine, in Strasburg (*Lancet*, Dec. 27), Dr. Bæckel showed a specimen of almost complete adhesion of the vocal cords following diphtheria in a child on whom tracheotomy had been performed. The cannula could not subsequently be dispensed with, and had been worn until the child died, a few months later, of scarlet fever. [Stoerk describes a similar case in the *Wiener Medizinische Wochenschrift*, No. 46, 1879 (see LONDON MEDICAL RECORD, Feb. 1880), in which the adhesion appeared to be due to the use of a non-fenestrated cannula which had been worn for two years.—*Ref.*]

2. Macewen on the Introduction of Tubes into the Larynx through the Mouth.—In the first number of the present year of the *Monatsschrift für Ohrenheilkunde*, Dr. Macewen records two cases of successful dilatation of the larynx by means of tubes introduced by the aid of the mirror through the mouth. Both these cases were acute oedema of the glottis supervening upon stenosis. In a third instance, Dr. Macewen introduced the tube into the larynx before the removal of a carcinoma of the pharynx, to prevent blood from escaping into the larynx during the operation, and to facilitate the administration of the anæsthetic. [Dilatation of the glottis by means of tubes has been successfully practised by Schrötter, and is strongly advocated by him in preference to tracheotomy for the relief of acute oedema of the glottis.—*Ref.*]

3. Asch on Stenosis of the Larynx from Syphilis: Tracheotomy: Dilatation with Metallic Sound: Cure.—The patient (*Archives of Laryngology*, No. 1, 1880), aged 35, was completely aphonic. The parts were deformed to such an extent as to be almost unrecognisable. The glottis was about the size of a small pea. Large doses of iodide of potassium failed to relieve the patient. Tracheotomy was performed. Two months afterwards the adhesions in the larynx were broken up, as far as possible, with a metallic sound. Four months later, dilatation was commenced with a flexible metal sound, bent to meet the case. The size of the sound was gradually

increased. This treatment was continued for about five months, at the end of which time the patient had regained her voice, and all hindrance to respiration had disappeared.

4. Bécларd on a New Laryngeal Dilator.—This instrument, which is described and figured in *Les Annales des Maladies de l'Oreille et du Larynx* for Feb. 1880, consists of a steel tube with a proper laryngeal curve, and is so arranged that the lower end, when in the larynx, can be made to expand in the form of four processes, somewhat after the fashion of certain forms of urethral dilator.

5. Barlow on Congenital Syphilitic Disease of the Larynx.—Dr. Barlow exhibited a specimen of this affection at the Pathological Society of London (*British Medical Journal*, April 17th). The child from whom the larynx was taken was 11 months old, and showed abundant evidence of syphilis. Symptoms had existed for six months. The voice was weak and hoarse, and there was laryngeal cough. At the *post mortem* examination there was found oedema of the ary-epiglottidean folds, with erosion of the mucous membrane.

6. Sturge on Congenital Syphilitic Disease of the Larynx.—Dr. Sturge showed, at the same meeting as the above, a larynx removed from a boy two and a half years old. The father had contracted syphilis two years before marriage. The child had suffered from laryngeal dyspnoea and loss of voice, and died of spasm of the glottis after exposure to a high wind. The ary-epiglottic folds were swollen, the cords partially destroyed by ulceration, and there was commencing stenosis of the upper part of the trachea.

8. Redon on Preliminary Tracheotomy.—Dr. Redon (*Annales des Maladies de l'Oreille, du Larynx, etc.*, February 1880) advocates the performance of preliminary tracheotomy in a great number of affections, viz.: 1. In wounds of the larynx with hæmorrhage, to aid the search for and ligature of the wounded arteries; 2. In fracture of the larynx, to prevent asphyxia and to remove the fragments; 3. In the case of foreign bodies in the air-passages, not only to avoid suffocation which may supervene during their extraction, but also, perhaps, to aid in pushing them back into the pharynx; 4. Before extraction of polypi of the larynx, especially when the galvanic cautery is used, since severe spasm of the glottis is often produced after this mode of extraction; 5. In stenosis of the larynx to aid subsequent dilatation; 6. In goitre, where the larynx is dangerously pressed upon by the tumour; 7. Before operations about the mouth, nasal fossæ, and pharynx, to avoid risk from the flow of blood into the air-passages, and to facilitate the administration of anæsthetics.

12. Körte on Certain Rare Diseases which follow Tracheotomy for Diphtheria.—Amongst these (*Centralblatt für Medicinischen Wissenschaften*, No. 4, 1880) are mentioned: 1. Ulcers on the anterior wall of the trachea; 2. Cicatricial stenosis of the trachea above the cannula; 3. Overgrowth of granulation-tissue, producing stenosis, which occurred above the cannula in three cases and below in one.

13. Moir on Croup: its Nature and Treatment.—In the April number of the *Edinburgh Medical Journal*, Dr. Moir concludes a series of six articles on the above subject.

14. Moure on the Diagnosis between Syphilis and Laryngeal Phthisis.—The author compares (*Annales des Maladies de l'Oreille et du Larynx*, Feb. 1880) the symptoms of these affections at different periods:

1. The early stages of laryngeal phthisis with secondary syphilis; 2. The ulcerative stages of laryngeal phthisis with tertiary syphilis. The principal symptoms which he passes in review are those furnished by the voice, cough, expectoration, pain, respiration, enlargement of the glands, and local appearances of the disease. In the secondary period of syphilitic laryngitis the voice may be normal or hoarse; in the tertiary rarely aphonic, but always hoarse. In early tuberculosis the voice is husky, and there may sometimes be aphonia; in the ulcerative stage, aphonia is always present. In secondary syphilis there is no cough: it is also rare in the tertiary stage, but is very frequent in the ulcerative period of laryngeal phthisis. There is no expectoration in secondary syphilis; but it is present, and may be blood-stained and purulent, in the tertiary. In commencing laryngeal phthisis it is mucoid, and in the ulcerative period muco-purulent. The pain is nocturnal in syphilis. The cervical and submaxillary glands usually swell in syphilis, whereas in tuberculosis they do not enlarge, but often atrophy. Both affections show hyperæmia of the mucous membrane: in phthisis it affects the arytenoid region, and is roseate in colour; in syphilis it affects the front part or the free edge of the vocal cords, and in colour is dark red. The mucous patches of syphilis project above the mucous membrane, are depressed at their centres, and are surrounded by inflammatory redness. Tuberculous erosions, though grey like the mucous patches, differ in not projecting above the level of the mucous membrane; their edges are confused and irregular. Gummata are apt to be mistaken for tubercles, and syphilitic for tuberculous ulceration. Gummata are large and yellow, and cause projections under the mucous membrane: tubercles are grey, opaline and small, and give a granular appearance to the mucous membrane. Gummata affect chiefly the epiglottis, the glottic portion of the larynx, and the trachea; tubercles appear most often on the subglottic portion of the arytenoid cartilages. The ulcers in syphilis are solitary or few in number, their edges are hardened and cut perpendicularly; in tuberculosis they are oval or round, with dentated edges, often covered with fleshy granulations or polypoid vegetations. Both ulcerations affect the epiglottis, but differ in their mode of evolution. In phthisis they proceed from below upwards, and from the periphery to the centre; in syphilis the process is reversed. The affection can always be arrested in syphilis; this is impossible in tuberculosis, especially if the ulcerative stage have been reached.

15. *Chuquet on a case of Ulcerous Affection of the Larynx, probably of a Tuberculous nature, mistaken for Lymphadenoma of the Tracheo-Bronchial Glands.*—The patient, six months ago (*Annales des Maladies de l'Oreille et du Larynx*, Feb. 1880), perceived swellings on each side of his neck; two months ago his voice became affected, and respiration more difficult. His face was congested, and the chain of glands on each side of the neck greatly enlarged, but there was no glandular swelling elsewhere. The lungs appeared healthy, and no other affection was discovered. The dyspnoea was more intense during the night than during the day. The patient was in a state of stupefaction, and appeared to be in imminent danger of asphyxia. His condition did not permit a laryngeal examination to be made. The blood contained a large increase of white corpuscles. The diagnosis was that of lymphadenoma and pressure upon the trachea by the

large glands. Subsequently a redness appeared on the right side of the neck; softening of some of the glands and formation of an abscess followed. This upset the notion of lymphadenoma. Suppuration went on, and the swelling disappeared. The condition of the patient continued to get worse, and he died a short time afterwards. The necropsy showed that the diagnosis during life had been incorrect. Dyspnoea had been caused, not by pressure upon the trachea, but by an ulcerous lesion of the epiglottis and the arytenoid cartilages. There were no glands enlarged except in the cervical region. The lungs contained tubercle.

16. *Beregszászy on Herpes Laryngis.*—In the *Wiener Medizinische Presse*, No. xv, the author offers some remarks on this affection, of which he has seen three cases in Schnitzler's clinic. The herpetic eruption does not differ, either in its etiology or pathology, from the like affection in the pharynx, in which it is not very uncommon. It may occur on the epiglottis, the vocal cords, or the general mucous membrane. It appears in the form of little swellings on an inflamed base; these in a few days become vesicles, and then gradually disappear, leaving erosions of the mucous membrane, or even slight ulcerations, which in a short time gradually heal. Herpes of the lips, tongue, and conjunctive generally occurs at the same time. A similar case has been recorded by Meyer (*Berliner Klin. Wochenschrift*, see LONDON MEDICAL RECORD, Feb. 1880), who at first mistook it for syphilis; also one by Schnitzler, who confounded it with diphtheria.

18. *Brault on Xanthelasma of the Larynx, Trachea, and Bronchi, in a case of Hydatid Cyst of the Liver.*—This specimen was shown at a recent meeting of the Société Anatomique. Striae of xanthelasmic tissue were found on the mucous membrane of the larynx and bronchi. Xanthelasma of the skin had existed during life.

19. *Cazin on Lupus of the Soft Palate and Fauces, and Scrofulous Ulceration of the Face, cured by an Attack of Erysipelas.*—The patient, a scrofulous girl aged 13 (*Annales des Maladies de l'Oreille, du Larynx, etc.*, February 1880), presented scrofulous ulceration of both cheeks. Upon the soft palate there was a round ulcer about the size of a twenty-centimètre piece, which was perforating the tissues; the edges were grey and sanious, and tubercles were seen around. The patient was put under a course of treatment, during which the ulceration of the face and throat fluctuated; when the scrofulous ulceration of the face was stationary, the lupus extended; when the lupus was better, the ulceration of the cheeks was worse. At the end of some months, the lupus had eaten away the right half of the palate and corresponding tonsil. Shortly afterwards, the patient was seized with a violent attack of erysipelas of the forehead and face, but having the peculiarity that there was no defined line of demarcation between the healthy and affected parts. The mouth and soft palate were cedematous and scarlet, showing that the erysipelas had not only attacked the skin but had also invaded the mucous membrane. The attack lasted eight days, and was followed by a marked improvement in the ulceration of the face and palate. The improvement continued, and in a few weeks the cure was complete.

23. *Sands on Cancer of the Larynx: Successful Removal by Thyrotomy.*—This case is reported in the *New York Medical Record* for Jan. 10th, 1880. The cancer was of the intralaryngeal variety, and had

not returned at the end of one year and ten months, when the patient died of secondary cancer in the suprarenal capsule, kidney, and ureter. In each of the nineteen cases mentioned by Bruns of cancer removed by thyrotomy, the disease returned in the larynx.

24. *Koch on Laryngeal Cancer.*—Dr. Paul Koch (*Annales des Maladies de l'Oreille et du Larynx, etc.*) gives a sketch of a case of cancer of the larynx which came under his observation, and points out in what the symptoms it presented differed from those usually noticed. He strongly advocates the performance of tracheotomy, even when the cancer is far advanced. He thinks it is never justifiable to allow the patient to die from asphyxia, that being, he considers, the most terrible form of death.

26. *Heinze on Cysts of the Vocal Bands.*—In the first number for this year of the *Breslauer Aerztliche Zeitschrift*, Sommerbrodt published four cases in which cystic tumours were found on the free edge of the vocal bands, and five other cases in which most probably such cysts existed. In three of these cases the cysts were opened. They appeared as nodular or spindle-shaped thickenings of the edge of the vocal bands, of the same white tendinous colour as that of the normal band. The depression, that can be easily produced on them by touching them with a probe, serves to distinguish them from fibromata. Dr. Heinze, to supplement these cases, records the following (*Archives of Laryngology*, Vol. i, No. 1, 1880). The patient was 40 years of age; he had suffered for many years from repeated attacks of laryngeal catarrh. Latterly they had sometimes passed off, either suddenly or in a remarkably short time, so that the hoarse voice at once became deep and almost quite clear. A spindle-shaped tumour was discovered on the free edge of the left vocal band, about 1 centimètre long and $\frac{1}{2}$ centimètre broad. It was of a greyish white colour, slightly blueish at the middle, smooth, and shining. A slight depression could be produced by pressing on the middle of the swelling with a probe. On a subsequent visit the patient's voice was almost clear, and the swelling was reduced to one-half its former size. There was a distinct falling in of the edge looking towards the opposite vocal band. The cyst had evidently spontaneously ruptured; the rest of the growth, which felt quite firm under the probe, disappeared after repeated incisions, and the patient was dismissed with a normal vocal band and clear voice. In this case the walls of the cyst were firmer than in those of Sommerbrodt, where the cysts disappeared immediately after incision and emptying of the contents. Dr. Heinze thinks that the repeated loss and sudden recovery of the voice were due to the alternate filling and rupture of the cyst, and he would regard this symptom as one of the characteristic signs of the affection. Cysts in this situation do not appear to be very rare. The cases operated on amount at least to 17, those observed to many more.

27. *Smith on a Case of Recurring Hemorrhage from the Vocal Cords.*—This case is reported in the *Archives of Laryngology*, No. 1, 1880. The patient, an actor, 27 years old, frequently raised slightly bloody sputa after prolonged use of his voice; latterly he had raised all through the day. A spot of blood, a line in diameter, was seen on the right vocal cord near its attachment to the arytenoid cartilage. The blood apparently oozed at a single point from an unbroken surface, as it is sometimes seen to do from the nose. A solution of perchloride of iron

was applied. No blood was seen the next morning, but returned after acting at night. This went on for a few days. As the patient could not obtain the rest required for treatment, he ceased to attend, with his condition unameliorated.

28. *Shurley on Primary Phlegmonous Inflammation of the Right Ventricular Band.*—This case (*Archives of Laryngology*, Vol. i, No. 1, 1880) seems to have been one of laryngitis, terminating in an abscess in the neighbourhood of the right ventricular band.

29. *Lefferts on Chorea of the Laryngeal Muscles (Chorea Laryngealis).*—At a meeting of the American Laryngological Association (*St. Louis Medical and Surgical Journal*, Feb. 1880), Dr. George Lefferts, of New York, raised the question whether certain forms of spasmodic laryngeal affections, which had hitherto generally been classed as hysterical, were not rather of the nature of chorea. 'No instance,' he says, 'of pure laryngeal chorea, i.e., chorea of the laryngeal muscles alone, without any other manifestation of the disease, with one or two incomplete exceptions, exists in the literature of the affection; whilst cases of so-called hysteria, or neurosis, with predominant laryngeal symptoms, abound.' He bases his conclusions that chorea of the larynx is a separate, distinct, and local affection on the following cases. 1. A girl, 16 years old, was subject to a continual noise in the throat, like a short, sharp, explosive bark, occurring at intervals of a few moments, except at night, unaccompanied by any but the slightest muscular movement of the throat, and none of the mouth or face. She had had no manifestation of hysteria, nor fits, nor twitchings of the muscles, had always been strong and well, and had never associated with choreac children. Laryngoscopic examination showed that every few moments the vocal cords were driven sharply together, as if by external force. After close and spasmodic approximation for a second or two, they were widely thrown apart, as if by the force of the pent-up air in the trachea, which then rushed through the still contracted glottic aperture with a peculiar barking sound. The next second the muscles were fully relaxed, the vocal cords fell naturally back to the sides of the larynx, but immediately the whole process was repeated. The mucous membrane of the larynx was normal. 2. A girl, aged 20, was subject to a continuous, monotonous cry, or yelp, and was known as the barking girl. She had never suffered from uterine disturbance, nor from hysteria. The laryngoscope showed a constant activity of the adductor and abductor muscles of the glottis; the vocal cords, after a preliminary restlessness of motion, were spasmodically approximated, and struck in quick succession; the arytenoids were closely pressed together. The air was ejected in spurts, giving rise to the peculiar character of the cry. After the attack the glottis opened widely, the patient inspired deeply, breathed quietly a few moments through the glottis, still with a twitching movement, and then the attack was repeated. The case at last yielded to belladonna, bromide of potassium, and electricity. 3. A girl, aged 15, during an attack of fever, developed laryngeal spasms, which would occur as follows. There would be a cough, consisting of several expiratory acts, each successive one shorter than the other, until the air was expelled from the chest. Then the patient would hold her breath, inspire, and have rest for some time. These attacks continued for two weeks, and subsided, leaving a loud, peculiar, crowing

sound with each inspiratory act, which only ceased at night. There was no history of nervous or hysterical trouble, nor were there any twitchings of the other muscles. On examination, the arytenoid cartilages were seen every few seconds to be violently approximated, and forced closely together. The vocal cords were violently contracted, then quickly relaxed and quivered, all within the space of a few seconds. During each paroxysm the air was drawn through the glottic aperture, giving rise to the high-pitched crowing sound. This case yielded to tonics, anti-spasmodics, and electricity. Dr. Lefferts draws the following conclusions from these cases. 1. There is an affection of the larynx characterised by violent, incoördinate, irregular, and involuntary action of its muscular apparatus, the symptoms of which justify the name of chorea of the laryngeal muscles. 2. It may be readily confounded with hysteria, when the latter includes the larynx in its manifestations. 3. The differential diagnosis may be made by the laryngoscope, by the clinical history, and the peculiar character of the laryngeal manifestations. *Chorea*, affecting the laryngeal muscles, produces violent, prolonged (weeks to months), incoördinate and involuntary muscular movements. *Hysteria* develops, as a rule, laryngeal spasm alone, short, often voluntary, never continued regularly through weeks or months. *Chorea* may affect the laryngeal group of muscles alone. *Hysteria*, if the larynx be implicated, will give general manifestations. 4. The prognosis of the affection is good. 5. The treatment is often tedious and perplexing. Electricity has yielded the best results. General treatment is all-important where indications exist.

30. *Schrötter on Laryngeal Chorea*.—Dr. Schrötter, in the *Allgemeine Wiener Medizinische Zeitung*, No. 7, gives this name to a class of cases characterised by a peculiar barking or crowing cough, over which the patient has no control, and which is totally different from that observed in other affections of the air passages. In certain cases of hysteria, such a cough may occur, and it is occasionally simulated; but in many instances it cannot be attributed to either of these causes. That this affection is of the nature of chorea, Schrötter believes from the following. 1. The patient has no control over the attacks. 2. The spasmodic contractions disappear during sleep. 3. Other muscles, not connected with the larynx, are occasionally also affected in persons thus attacked. 4. Other nervous affections may manifest themselves in the same person or family. 5. The relapses are frequent. Eleven cases have come under his notice; most of them were children between the ages of 8 and 14. He believes the affection is a motor neurosis, but thinks there is no proof of its originating in the central nervous system. The treatment consisted in the cold shower-bath, quinine in large doses, tonics, iron to anæmic persons, and the application of the constant current.

31. *Massei on Laryngeal Chorea*.—M. Massei, in the *International Journal of the Medical Sciences*, of Naples, writes to object to the term laryngeal chorea, as applied by Schrötter to the class of cases described in the paper of which the foregoing is an abstract. Dr. Massei considers the affection due to a hyperæsthesia of the reflex sensibility of the larynx. He argues as follows. If the mucous membrane of the larynx be slightly acted upon, the only effect produced will be the excitation of the expiratory muscles, and a convulsive movement, ushered in by a cough; while inspiration, difficult at first, will soon become normal. If, on the other hand, the

mucous membrane be acted upon by strong excitants, convulsive occlusion follows, ushered in by more or less prolonged and sonorous inspiration. In both these cases the nerve-terminations receiving the impression are the same; the mode only in which they respond is different. We have a right, then, to distinguish 'common' or 'reflex sensibility' from 'general sensibility'. Choreic movement then, is a constant consequence of the morbid excitation of the sensibility of the mucous membrane. This being so, why should we call that special, sonorous, short, very frequent cough, laryngeal chorea, and not apply the same term to spasm of the glottis, since either may be produced according to the degree of excitation?

34. *Porter on Pressure on the Recurrent Nerve*.—Clinical notes of this case are published in the *Archives of Laryngology*, No. 1, 1880. The patient, 27 years old, had hoarseness, spasmodic cough, and dyspnoea on excitation. There was incomplete abduction of the right cord, which was also relaxed. The lungs were healthy. An enlarged gland was found in the neck, on the right of the trachea, just below the level of the cricoid cartilage. No other cause for the symptoms being found, the gland was removed. It projected into the groove between the trachea and œsophagus. The patient completely lost his troublesome symptoms. A somewhat similar case of pressure upon the recurrent nerve, by an enlarged gland, is reported (*Alienist and Neurologist*, No. 2, 1880). Here the injection of acetic acid produced its resolution.

36. *Koch on a Wound of the Larynx caused by a Pitchfork*.—A boy, 16 years old (*Annales des Maladies de l'Oreille, du Larynx, etc.*, Feb. 1880), received a wound from a hay-fork, one of the long teeth penetrating the front part of the neck. There were instantaneous pain, a fit of suffocation, cough, and vomiting of blood. The next day he was sitting up in bed, and hardly feeling the effects of the wound. The only symptoms were very painful deglutition, slight respiratory trouble, and well-marked emphysema, extending from the front of the neck to the chest. The external wound was completely closed; no air proceeded from it either during phonation or respiration, nor was it inflamed. The emphysema passed off, and in a week the patient was well. Dr. Koch, in remarking on the case, thinks that there can be no doubt that both the laryngeal walls and the œsophagus were wounded; he attributes the absence of any grave results to the sharpness of the fork which produced a clean and incised wound, the edges of the wound having immediately closed in consequence of the elasticity of these parts.

37. *Tempesti on Death caused by the Entrance of a Fish into the Larynx*.—A fisherman (*Monatsschrift für Ohrenheilkunde*, No. 1, 1880) was trying to extract with his teeth a fish which had got caught in the meshes of the net. The fish slipped down his throat, and he was suffocated from its becoming impacted in the larynx.

40. *Cabot on Retropharyngeal Tumour*.—The patient, aged 50 (*Archives of Laryngology*, No. 1, 1880), first noticed a swelling in her throat five months ago. The tumour filled the whole right side of the pharynx, extending considerably past the middle line, and pushing the palate and posterior pillar of the fauces so firmly forwards that the tonsil was entirely concealed. The mucous membrane covering it was smooth and slightly red. The tumour was attached by a broad base posteriorly, and extended upwards into the posterior nares and down-

wards to about the level of the thyroid cartilage. Its upper part was firm, whilst its lower half was soft and elastic. No glands were felt enlarged. Tracheotomy having been performed, the patient was then placed in Rose's position, and, the tongue and palate being held apart, a straight incision was made in the vertical axis of the growth over its most prominent part. The mucous membrane was stripped back with the greatest ease, and the tumour was enucleated almost entirely with the fingers. The bleeding was inconsiderable, and easily controlled by pressure. The patient made a perfect recovery. The tumour appeared to be a fibro-sarcoma.

42. *Després on Ligature of both Lingual Arteries for a Vascular Tumour of the Tongue.*—This case is reported in the *Bulletin Général de Thérapeutique* for Dec. 1879. The tumour was reduced slightly in size, but it does not appear that the benefit obtained was commensurate with the risks attending the operation. W. J. WALSHAM.

OPHTHALMOLOGY.

RECENT PAPERS.

1. PARENT.—Report of Dr. Galezewski on Hospital Practice, Nov. 1878-79. (*Recueil d'Ophthalmologie*, May 1880.)

2. MENGIN.—On Paracentesis of the Anterior Chamber, in Cases of Abscess and Ulcer of the Cornea. (*Ibid.*)

3. GALEZOWSKI.—On the Treatment of Scleritis and Sclero-Keratitis. (*Ibid.*)

4. GODO.—On Treatment of the Febrile Herpes of the Cornea. (*Ibid.*)

5. GALEZOWSKI.—Notes on Cataracts and their Treatment. (*Ibid.*)

6. BADER, C.—A New Treatment of Gonorrhœal Ophthalmia. (*Lancet*, May 1, 1880.)

1. *Parent on Galezewski's Practice of Ophthalmology.*—Dr. Parent, *chef de clinique*, gives a statistical and critical account of Dr. Galezewski's ophthalmic *clinique*, during the period between March 1, 1878, and November 1, 1879. In his *brochure* the author, besides relating some rare and interesting cases, gives also the routine treatment in all the commonly met with eye diseases. Thus, in trichiasis, complicated with deformity of the tarsal cartilage, we learn that Dr. Galezewski uses the thermo-cautery, which he carries through all the tissues down to the cartilage. The subsequent retraction generally restores the cilia to their normal positions, and also straightens the lid. Ciliary blepharitis is treated either by applications of tincture of iodine, or by cauterisation with pure nitrate of silver, the excess of which is neutralised by chloride of sodium. This latter method has given better results than any other. Granular lids are dealt with by excision of the conjunctival *cul-de-sac*. This treatment, though apparently severe, has been attended with no bad results, but, on the contrary, has considerably shortened the length of time which the cure of such cases has hitherto demanded. In a bad case of gonorrhœal ophthalmia, the following treatment was practised with success; viz., leeches, nitrate of silver ointment, and a light cauterisation with a two and a half per cent. solution of the same salt. In another case in which the inflammation was intense, and perforation imminent, an iridectomy was made, notwithstanding the inflamed condition of the parts.

This probably saved the eye. In regard to keratitis punctata, Dr. Galezewski has seen deposits on the anterior capsule similar to those generally present on the membrane of Descemet, a point which, as is well known, is still a matter of controversy. Complete staphylomata of the cornea are always amputated. A thread is passed through the conjunctiva all round the protuberance, and in this way any escape of vitreous humour is prevented. Injections of nitrate of pilocarpine are used largely in extravasations into the vitreous body, and have apparently considerably shortened the duration of the affection. Neither sclerotomy nor enervation finds much favour in Dr. Galezewski's eyes. The former he would confine exclusively to cases of absolute glaucoma, when the eye still continues painful, and to cases of hæmorrhagic glaucoma. An interesting and very rare case of nerve-atrophy, consecutive on malarious fever, was noticed in a patient coming from the Island of Bourbon.

2. *Mengin on Paracentesis of the Anterior Chamber of the Eye.*—Dr. Mengin (*Recueil d'Ophthalmologie*, May 1880) argues strongly for the above treatment in all chronic abscesses and ulcers of the cornea. He considers that it gives better results than any other method, and is moreover an excellent safeguard against perforation. In phlyctenular, vesicular, and pustular keratitis, when the affection has lasted more than four or five weeks, there should, in his opinion, be no hesitation about performing paracentesis. Should one operation not be sufficient, it may be repeated at frequent intervals. In ulcerative keratitis, where pain is felt along the course of the branches of the fifth pair, he considers the operation especially indicated, as also in abscesses with hypopion. In such cases it is sufficient to puncture the centre of the affected part, without making a large section. Such a paracentesis is more especially called for in abscesses of traumatic origin, as soon as any haziness of the aqueous humour or any threatening of hypopion is noticed. As regards the objection that paracentesis may cause prolapse of the iris into the wound, the author considers it to have no force, more especially as eserine can always be used, if required, before the operation.

3. *Galezowski on Scleritis and Sclero-Keratitis.*—In an article on the treatment of inflammation of the sclerotic (*Recueil d'Ophthalmologie*, May 1880), Dr. Galezewski insists on the importance of clearly distinguishing between scleritis confined to portions of the sclerotic distant from the corneal limbus, and scleritis occupying the limbus. In the former case, the disease, though obstinate, is, as a rule, curable, and will leave no external traces upon the eye nor permanently interfere with vision. The second variety, on the contrary, is frequently followed by grave complications in the cornea and iris, and may lead to permanent blindness. Both forms are intimately connected with a rheumatic or gouty diathesis, but may also be dependent on the presence of struma. As regards treatment in the first-mentioned variety of the affection, Dr. Galezewski has developed a certain procedure, which has given him excellent results. He first of all has recourse to alternate instillations of atropine and eserine, using the former twice a week, the latter every day. He then applies flying blisters to the forehead and temples, and uses ocular douches of steam. Internally, salicylate of soda is administered, in daily doses of from 2 to 4 grammes, with hypodermic injections of pilocarpine. In scleritis of syphilitic origin, he places his chief reliance on iodide of potassium. Each of these

stages of treatment is illustrated by reported cases. In certain instances the author has found great benefit from scarifications at long intervals of the inflamed and swollen surface of the sclerotic. The incision should be perpendicular to the corneal border, and should extend down to the sclerotic. If done once every ten or twelve days a single incision will often suffice to arrest the further progress of the affection. The second variety of scleritis, viz., sclero-kerato-iritis, is always localised at first in the ciliary region, very near to the corneal border, whence it spreads progressively to the cornea and the iris. In such cases, the author considers there is only one really efficacious treatment, viz., iridectomy. In most cases the pain is at once relieved, and within ten or fifteen days after cicatrisation has become established, the swelling and redness disappear, and the affection is cured without danger of relapse. In support of this doctrine, he gives the histories of two cases. In one the affection had proved rebellious to all treatment, and the cornea was becoming gradually infiltrated throughout its whole extent. There was also very intense periorbital pain. Iridectomy gave immediate relief, and subsequently removed all the symptoms. In another, a strumous girl had suffered for several months from sclero-keratitis. Both eyes were affected; there were interstitial deposits in the cornea, posterior synechiæ, and symmetrical inflammation of both sclerotics. In this case, also, the results obtained by iridectomy were most satisfactory. The author concludes by stating that he considers the above operation to be the only successful plan of dealing with these troublesome cases.

4. *Godo on Treatment of Febrile Herpes of the Cornea.*—Dr. Godo (*Recueil d'Ophthalmologie*, May 1880, see also LONDON MEDICAL RECORD, May 15) considers that the best and indeed the only really valuable treatment of corneal herpes consists in the administration of quinine. This drug, employed internally rather than in insufflation, which method is somewhat irritating, often renders great service, and abridges very considerably the duration of the attack. According to the author, herpes of the cornea is frequently the expression of a paludal poison; and if such be the case, the action of the drug can be easily understood. He does not, however, trust to quinine alone, but uses eserine alternately with atropine, flying blisters, derivatives, and compression.

5. *Galezowski on Cataracts.*—Dr. Galezowski (*Recueil d'Ophthalmologie*, May 1880) continues his observations on various forms of cataract (see LONDON MEDICAL RECORD, May 15). He divides acquired pigmentary cataracts into two classes, viz., where there is a simple deposit of pigment on the capsule and where this deposit is complicated by a layer of plastic exudation, more or less thick. According to the author, such cataracts are always connected with an arrest of development, and are due to some intra-uterine inflammatory process. Such being the case, they are generally found associated with other anomalies of conformation, either in the eye itself or in its fellow. Disseminated capsular cataracts have many points of apparent resemblance with the disseminated lenticular, and for this reason the two varieties, which should be kept distinct, are often confounded by authors. These cataracts are met with under two forms, viz., either as round white spots on the capsule, or as dark irregular deposits. The former of these can only be seen by oblique illumination, with the aid of a lens of (e.g.) 14 D. They are imperceptible to the naked eye, or to the ophthalmoscope. They may generally be found in

both eyes, and number from five to twelve. They are most probably the result of an inflammatory process, which attacks simultaneously the posterior surface of the cornea, and the superficial layers of the iris, and the capsule. The author has generally met with such cases in women who had suffered from subacute or chronic iritis, depending on dysmenorrhœa or on amenorrhœa. He has lately seen a case in which the spots on the anterior portion of the capsule were correlated with similar ones on its posterior aspect. He quotes the following case in support of his view as to the inflammatory process not being confined exclusively to the capsule. The patient was aged 20, and had certainly suffered from menstrual irregularities. At 19 the catamenia ceased, apparently definitively, and this stoppage was followed by an attack of inflammation in the left eye, with intense periorbital neuralgia. On examination, there was found to be considerable circumcorneal injection, with œdema of the lids. The cornea was dotted over with white spots of the size of a pin's head; the anterior chamber was turbid; no posterior synechiæ were present, but the edge of the pupil was ragged, and in places deprived of its pigment. On the anterior surface of the capsule, by the aid of a lens, numerous greyish white dots, very similar to those on the cornea, were visible. The lens itself was evidently perfectly transparent. The attack was confined to one eye only.

6. *Bader on a New Treatment of Gonorrhœal Ophthalmia.*—After some general remarks on the occasional inefficacy of all methods of treatment in gonorrhœal ophthalmia, Mr. Bader (*Lancet*, May 1, 1880) proceeds to mention a treatment which he has lately found to be of great use in such cases. It was suggested to him by a consideration of the fact that mercury, when thoroughly applied locally, has a powerfully destructive effect on contagion. In vaseline, in itself of antiseptic origin, he finds an excellent vehicle for bringing and keeping mercury into contact with mucous membranes, such as the conjunctiva, urethra, etc. An ointment was therefore prepared, consisting of nitric oxide one grain, vaseline one ounce, and daturine or atropine one-fifth of a grain. The latter substance was added to counteract any complications of the iris or deeper parts of the eye. Mr. Bader tried this application in five instances with remarkably satisfactory results. The first case occurred in a youth, aged 17, who presented all the symptoms of a most severe attack of gonorrhœal ophthalmia. The eye was thoroughly cleansed, and the ointment applied under the upper lid. Both eyes were then bound up with lint, smeared over with ointment, and changed every third hour. In about five weeks a cure was effected, the cornea remaining clear. The other cases are in the main similar to the foregoing. Case iv was one of double purulent ophthalmia, with moderate discharge, but with some iritis and corneal opacities. Treatment was successful, and lasted only eight days. The fifth case was one of a similar nature, occurring in a cachectic child, aged 4 years. The ointment was applied freely under chloroform between the upper lids and the eyeballs, which were bound up with lint smeared over with the dressings. At the end of seven days the corneæ were clear and smooth, and all swelling of the eyelids and conjunctiva had subsided.

LITTON FORBES.

OTOLOGY.

RECENT PAPERS.

1. MATHEWSON, A.—The Anatomy and Surgery of the Eustachian Tube. (*Annals of the New York Anatomical and Surgical Society*, March 1880.)

2. THOMAS, C. H.—Researches on Hearing through the Teeth and Cranial Bones. (*Phil. Med. Times*, February 28, 1880.)

3. WEBER-LIEL.—On the Abortive Treatment of Furunculosis Inflammation of the External Auditory Meatus. (*Deutsche Med. Wochenschrift*, April 10, 1880.)

1. *Mathewson on the Eustachian Tube.*—Dr. Mathewson, in a lecture on this subject (*Annals of the New York Anatomical and Surgical Society*, March 1880) first gives a sketch of the anatomy of the Eustachian tube, illustrated by figures after Rüdinger and Politzer. Zaufal's specula for examination of the orifice of the tube during life are next mentioned, and the author testifies that, as manipulated by Dr. Prout, their introduction is not much more uncomfortable than that of an ordinary Eustachian catheter. A few remarks on the physiology and pathology of the tube then follow. In regard to catheterism, the author describes only one method. For judging of the success of inflation, he relies chiefly on auscultation, but also on injection of the drum-head and the patient's sensations. Politzer's manometer for this purpose is not alluded to. Modifications of Politzer's method of inflation, which the author sometimes finds useful, are those of Dr. Holt, of Portland, who, instead of making the patient swallow, directs him to fill his mouth tensely with air; and of Dr. Tansley, of New York, who directs to blow forcibly from the mouth with puckered lips, as the air is forced into the nostrils by the bag; and Gruber's method. In acute forms of catarrh, the author employs inhalations of steam (simple or medicated), and uses Politzer's method in preference to the catheter. In chronic and subacute cases, he injects through the catheter a solution of nitrate of silver (gr. v. to xx. to to the ounce) blown into the tube with the air-bag, but not with sufficient force to carry the fluid into the tympanic cavity, where it would be likely to set up an undesirable degree of irritation. He also employs a solution of sulphate of zinc, five to ten grains to the ounce.

2. *Thomas on Hearing through the Teeth and Cranial Bones.*—Dr. Thomas (*Philadelphia Medical Times*, Feb. 28th, 1880) proposes the term 'osteophone' for all appliances—including the audiphone and dentaphone—intended to aid hearing by conveying articulate sounds through the medium of the cranial bones. His researches lead him to the following amongst other conclusions. The audiphone is much better adapted for use at a distance than the dentaphone, the latter being only suited to transmit sounds emitted near its mouthpiece. Although these instruments are of great value in a considerable proportion of cases, they supply, the author considers, a very small fraction of normal hearing—much less than a hundredth part. It is important that this should be taken into account, for a large number of partially deaf persons suffer such disappointment at their failure to hear in full, that they undervalue or altogether disregard a positive gain of many times their usual hearing. The very small fraction of normal hearing gained is, the author thinks, of priceless value in many cases of those who

hear practically nothing without these instruments. In regard to deaf-mutes, the audiphone is worthless, unless they possess the faculty of hearing their own voices without the instrument. The author has constructed an audiphone which can be kept in position without the use of the hand. The best material for diaphragms he finds to be Fuller's board (or press-board) treated with shellac varnish. A simple rod of hard wood, one end of which is placed on the upper teeth of the speaker, the other on those of the listener, or on his head, acts as a powerful osteophone, and will transmit the vocal vibrations in great volume to the ears of the deaf person.

3. *Weber-Liel on the Abortive Treatment of Furunculosis Inflammation of the External Auditory Meatus.*—Dr. Weber-Liel recommends (*Deutsche Medicinische Wochenschrift*, April 10, 1880) in boils of the external meatus, subcutaneous injections of a 5 per cent. solution of carbolic acid. Two to four drops of this are to be injected by one or more punctures, the point of the injecting syringe being inserted into the swollen part to a depth of one or two millimètres. When these injections are performed in the early stages, before formation of pus has taken place, the further development of the local inflammation is, according to the author, prevented. In quite the early stage, a single injection often suffices, followed by ear-baths of rectified spirit containing a minute quantity of corrosive sublimate. When the boil is more advanced, several injections, either at one sitting or at different times, may be required to produce local anæsthesia of the parts. The author cautions against the use of an impure solution of carbolic acid, or of a larger quantity than from two to four drops at the commencement. If this fail to produce complete anæsthesia, the injection may be repeated the same evening, with the addition of three drops of the fluid.

E. CRESSWELL BABER.

REVIEWS.

Contributions to Obstetrics and Gynæcology. By A. R. SIMPSON, M.D., Professor of Midwifery in the University of Edinburgh. Edinburgh: A. and C. Black. 1880.

In this valuable addition to obstetric and gynæcological literature and knowledge, Professor Simpson has collected most of his original papers, contributions, and criticisms which have appeared at different times in various periodicals. Although the title does not indicate that the scope of the work is extensive, we find on reading it that the number of subjects discussed is very considerable. The work is divided in two parts; the first is obstetrical, the second gynæcological. Both parts are liberally illustrated, many of the illustrations being original.

The great value of the work is its clinical nature. Nearly every proposition set forth is justified and illustrated by an accompanying account of a case in point. In the discussion on the value of perchloride of iron as a styptic in *post partum* hæmorrhage, Professor Simpson draws attention to a point which is not generally known or commented on; the anti-septic property of the drug. He says, 'I would be sorry to think that we should not be justified in using it in a suitable case. I had once used it in a case I was called to in consultation, but too late, as the patient was just sinking; but I was glad to believe

that the perchloride might possibly have arrested the flooding if applied a little sooner. I did not consider the theoretical reasoning against it sound, because the stimulant action would tend to make the uterus contract, and thus the styptic power of the remedy would be applied to a smaller placental surface, and to smaller orifices. Moreover, it is a grand antiseptic. There is a great tendency to septic absorption in these cases, but least of all in cases where the perchloride has been used; hence, though my own experience had not furnished proof of its value, I would like to see further trial made of it in suitable cases.

This, coming from so high an authority as Professor Simpson, is more than an answer to the theoretical objections of those who have recklessly stated that the perchloride causes septicaemia. Dr. Simpson relates a most valuable and interesting case of chorea gravidarum which ended fatally. The points of interest are that it 'illustrates Romberg's remark, that the chorea of pregnant females is almost always bilateral. It goes to increase the sum of the fatal cases which Barnes's valuable table, supplemented by Wanzel, shows to be very high in such women. Of Wanzel's 66 cases 18 proved fatal=27.3 per cent.' Dr. Simpson continues, 'Notwithstanding the presence of capillary emboli in the kidneys, it does not go to confirm Dr. Hughlings Jackson's theory that chorea is due to capillary embolism in the brain. The intracranial mischief which was discovered was not of embolic character, and the changes in the kidney had in all probability occurred in the last days, if not hours, of the patient's life, as it was difficult to see any cloudy change in the parenchyma of the organ. But it is worthy of remark that we had in this patient a combination of the conditions that have severally been notably associated with the development of chorea. For, 1, she had been the subject of an attack of rheumatism, which, in a milder form, had recurred shortly before the chorea appeared; 2, she had been the subject of a recent attack of scarlatina; and, 3, she was pregnant.'

The gynaecological part contains chapters on 'The use of the Volsella in Gynaecology, Diseases of the Vagina, Uterus, and Ovaries'. The chapters on ovarian disease are specially interesting and valuable, inasmuch as they comprise an account of a case of double oöphorectomy, or Battey's operation, with appreciative remarks. The patient had been a life-long sufferer from menstrual difficulty. She was, in fact, a perfect wreck. It was at the patient's own request that Dr. Simpson performed the operation. This was done antiseptically, and the patient recovered. 'The operation was performed on June 10th, and, at the usual period in July, a menstrual discharge came on. It was, however, of shorter duration, and attended with far less suffering than she had ever experienced. In the month of August, the first time for twenty-six years, she passed the dreaded week without having any catamenial flow, and without being obliged to keep her bed. There was a slight appearance in the month of September, attended with some suffering; but it lasted only a day, and did not necessitate confinement to bed. In October and November she was well. In December a slight and almost painless discharge at the regular time. In January and February 1879 she remained well, only having some degree of headache and general uneasiness at the periods. On examination I find the uterus is becoming distinctly reduced in size when grasped between the fingers. There is

no tenderness or fulness to be felt in the situation of the pedicles. The uterus is fairly movable. The vaginal roof, even, begins to contract, and its surface to become roughened from the same kind of colpitis which is frequent in elderly women, and which I have been in the habit of describing to my students as colpitis senilis.'

We have given the above in full, because it is important to place on record an authentic and trustworthy account of the results obtained in a new operation, and especially in one like this, which is not free from danger. Professor Simpson is to be congratulated upon the result of this, the first oöphorectomy, we believe, which has been done in this country. The results in this case certainly justified the operation, and appear to afford strong evidence in its favour in similar cases. In closing, we can cordially recommend the careful perusal of Professor Simpson's work to those who wish to keep abreast with the recent advances in obstetrics and gynaecology.

FANCOURT BARNES, M.D.

Des Epanchements de Sang dans les Plèvres consécutifs aux Traumatismes. Par le DR. CH. NÉLATON. Paris: Masson. 1880.

The subject of effusion of blood into the pleura as the result of wounds has been recently studied by Dr. Ch. Nélaton, and one looks with considerable interest for some valuable results from the large field of French military surgery of the Franco-German war. Dr. Nélaton seeks to lay down some rules for the treatment of hæmothorax, and studies the modifications undergone by such effusion.

He sets himself certain questions with regard to the anatomy and pathology of traumatic hæmothorax. Independently of a parietal lesion, can the hæmorrhage be furnished by an extensive lesion of the lung? or is it constantly from wound of some vessel of the root of the lung? He proves by experiment that a tear of the lung, however extensive, does not give rise to serious hæmorrhage if no important vessel be divided. When the large vessels of the root of the lung are injured, the animal always dies quickly, after severe dyspnœa and anxiety. Lesions of these vessels and of the aorta and vena cava are therefore hardly likely to be the subject of treatment, or to furnish such cases of hæmothorax as are here considered.

What, then, are the vascular branches capable of furnishing an abundant effusion of blood, but compatible with life? He quotes M. Panas, who, from a necropsy, found that large branches of vessels accompanying the bronchi of the third order supplied the effusion; and the author has made experiment upon an animal with the same result.

What are the conditions which favour or diminish hæmorrhage? Inspiration raises a column of fluid 12 to 20 centimètres, and he quotes a case of M. Polailon (*Bulletin de la Société de Chirurgie*, 1878), where a diaphragmatic vein was wounded and gave rise to extensive hæmothorax, the aspiration of the chest being regarded as the cause. Immediate occlusion helps to check the further flow, by creating a negative tension as the effusion increases, until a positive pressure upon the intrathoracic viscera occurs.

What becomes, then, of the blood effused into the pleura? Does it always coagulate? If a clot be formed, does it become encysted or disappear? Here the experience of Trousseau is repeated. Blood effused in quantity into the pleura, coagulates imme-

diately *en masse*. Soon it contracts, and the serosity separates from the fibrinous mass, which sinks to the most dependent part. If the quantity effused be not very considerable, the serosity may be absorbed before phenomena of inflammatory reaction show themselves, and the irritative process is localised around the clot, which becomes encysted. However, if the quantity effused be very great, and if this serosity be not absorbed at the time when inflammation comes on, it undergoes alteration and gives rise to complications.

After studying the course and termination of effusions, he maintains, with regard to diagnosis, that an examination of the rational symptoms will suffice in the greater number of cases, but not universally when the effusion is liquid; but, when it is encysted, the rational symptoms will not suffice, and the observance of physical signs becomes essential. By rational symptoms, he means persistent dyspnoea, fever, pain, and certain local phenomena, such as lumbar ecchymosis, bulging of the intercostal spaces, and oedema of the walls of the chest. The difference between an immediate and a tardy effusion is insisted upon, as a chief means of distinguishing between hæmothorax and inflammatory effusion.

The immediate treatment insisted upon by M. Nélaton is closure of the wound. Then, if the dyspnoea and the fever diminish gradually, the patient is to be left in most perfect repose, and interference avoided. If, by the eighth to the twelfth day, inflammatory accidents arise, they should be met by blistering and cupping, etc. But if the dyspnoea and the fever remain stationary or increase, one must interfere actively, and draw off the effused liquid. He prefers to use at first a capillary puncture. If the effusion consist only of the dark serosity, a single puncture may suffice. But if the liquid is already purulent or fetid, it will be necessary to make a free counter-opening, so as to be able, by frequent washings out, to counteract the phenomena of putrefaction which may arise.

He dismisses, as unworthy of consideration, the question of general or local blood-letting. He gives only in a casual and general way any indications for the injections which he insists upon, as essential after a counter-opening is made; and he takes no notice whatever of the accidents which are well known to have occasionally arisen in the use of various medicaments for washing out the pleura.

The experimental observations of the author are far from complete, and are very briefly recorded, but some of them are of sufficient interest to warrant their being noticed somewhat in detail. The first set were intended to determine what vessels, when divided, were capable of furnishing an abundant effusion of blood, yet compatible with life. Animals, in which the vena cava or one of the large vessels of the root of the lung was divided, died in the course of two to ten minutes; in each case, the pleura of the side injured was found full of clot, and this clotting took place immediately the blood was poured out into the pleura. Trousseau's experience, already referred to, was therefore supported by these new experiments of the authors. When only the parenchyma of the lung was wounded, the amount of effusion was very limited when no large vessel was injured. A stab, to the depth of two to eight centimètres in the fifth, sixth, seventh, and eighth intercostal spaces of the right side, resulted in the effusion of quantities varying from a teaspoonful to a table-spoonful, but no mention is made whether any intercostal or mammary vessel was divided. An

abundant effusion, compatible with the life of the animal, is considered by the author to arise from lesion of vessels accompanying the bronchi of second and third order, upon the strength of one experiment supporting the views of M. Panas. But, in this one experiment, the result cannot be looked upon as conclusive, seeing that the quantity of effusion is not accurately stated. The dog was killed the following day, and the pleural cavity contained a 'voluminous' clot, and a 'somewhat large quantity' of bloody serosity. No means are given for comparing this single case by its symptoms with others afterwards detailed, in which definite amounts were injected into the pleura. A single experiment also suffices to measure the force of thoracic aspiration, and this is given in such meagre form as to be of little real value.

A third set of experiments, made with a view to determine what becomes of the blood in the pleura, shows that after the immediate coagulation a separation takes place into clot and serosity, and that this separation is complete by the end of twenty-four hours. In these cases, blood was injected into the pleurae of medium-sized dogs, the amount varying from 250 to 800 grammes, and after the lapse of twenty-four hours the animal was killed. Care was taken to avoid coagulation being due to other causes than those inquired into, by using a transfusion apparatus; and the same effects, so far as coagulation is concerned, had also been produced in the earlier experiments, when the large vessels had been divided. One curious fact in connection with these injections of large quantities of blood into the pleura was, that almost invariably a certain amount of bloody serosity, or even blood itself, was found in the opposite pleura. No communication between the two pleurae was obvious, but the mediastinum of the dog is peculiarly arranged, and is composed of extremely thin and permeable connective tissue. Water injected into one side can be made to pass through to the other without very excessive pressure. After injecting 250 grammes into the left pleura, the dog was killed in twenty-four hours, and 50 cubic centimètres of serosity and 45 of clot were found in the side operated on, while 50 cubic centimètres of bloody serosity were found on the opposite side. In a similar experiment, but where the dog was killed on the third day, 60 cubic centimètres of serosity, in addition to a partly decolorised clot, were found on the injured side, while 50 cubic centimètres of bloody serosity occupied the opposite side.

When the quantity of blood effused into the pleura was considerable, the serosity exuded by the clot was not completely absorbed by the fourth or fifth days. Sometimes even the quantity found in the thorax at that time was greater than that injected. Six hundred grammes were injected into the left pleura; the animal was killed on the fourth day, and the left pleura now contained 875 grammes of serosity and a clot of 275 grammes, while the right pleura contained 275 grammes of a violet coloured serosity.

When the quantity effused was not excessive, the serosity exuded by the clot was absorbed gradually, and the clot became encysted. In one instance, 35 grammes were injected into the right pleura, and a similar amount into the left. The animal was killed on the sixth day. On the right side was found a small dark clot, joining the anterior border of the middle lobe to the diaphragmatic pleura, and weighing $7\frac{1}{2}$ grammes. On the left side was a still smaller clot, weighing 2 or 3 grammes. Each was covered

by a false membrane; and where in contact with the pleura, excessive vascularity of the serous membrane was noticeable. A teaspoonful of serosity was found in the right pleura only.

In another instance, 15 grammes were injected into the right pleura, and two days afterwards 300 grammes into the left. On the fourth and fifth days the animal would not eat, but remained lying on its right side. From the fifth to the tenth day the animal went on well, eating and walking as usual; he was then killed. No mention is made of the condition of the right pleura, but on the left side there was about a tablespoonful of bloody serosity. The pleura was smooth, but at a number of points on the convex surface of the diaphragm, specially near the mediastinum, were small flattened masses of adherent fibrin, under which the serous membrane was extremely vascular.

The author gives in detail nine cases of penetrating wounds of the chest, not accompanied by effusion of blood into the pleura. All these cases occurred during the years 1879-80 in the Paris hospitals, and following these are fourteen fully detailed cases where effusion had occurred. Five of these appear to have taken place during the Franco-German war, but the remainder are recent. In his tabulation of his own cases, together with others, derived from various sources, the first thirty were simple, and not complicated with hæmorrhax. In eighteen of these, the primary results of the injury were overcome in the earlier stages, and cure took place from the ninth to the ninetieth day. In eleven cases there were complications of traumatic pleurisy. In one case, death followed a wound of the substance of the lung, without any effusion or fracture of the ribs, after a gunshot injury. In ninety-four cases hæmorrhax was present; twenty-two of these terminated spontaneously by cure, and, of these, in five the liquid effused escaped by the wound; in nine the symptoms followed this course: from the third to the eighth day, generally about the fifth, there was a cessation of the immediate accidents resulting from the wound, then gradual recovery. In two the cure was rapid, but no special information is given. In six, the cure followed evacuation of the blood by the bronchi.

Of the next twenty, in all of which a counter-opening or puncture was made, sixteen recovered and four died. In the successful cases, there was an abatement of the symptoms up to the third and fourth days, and complications arose from the fifth to the ninth day; only once were they postponed to the twenty-fourth, and once they appeared sooner than usual, necessitating operation by the seventh day. In three others, however, a counter-opening was made on the fifth day, but before the development of severe symptoms, and in five other cases the date of operation cannot be determined. In the four fatal cases, the operation was unsuccessful in two, owing to adhesions, and the fluid was not reached.

The next forty-four cases terminated fatally; and of these, in thirteen grave symptoms did not appear till a definite time, either at a period of remission quite marked between the phenomena which immediately accompanied the wound and those accidents which result from the alteration in the effused liquid, or when this phase was wanting. In five cases, the intercostal or internal mammary artery was the source of the fatal hæmorrhage. In four cases, the patient sank from secondary hæmorrhage. In six death followed rapidly, as a consequence of hæmorrhage, furnished probably by the vessels of the root

of the lung. In sixteen cases, the observations were incomplete.

Lastly, in eight cases the operator was forced to empty the pleura of blood by different means, either by the position given to the patient or by dilatation of the orifice of the wound, or by the introduction of drainage-tubes into the pleura; and of these, seven in all were cured.

In looking through the sources from which the author draws his cases and opinions upon the subject of this work, one cannot but be struck by the absence of reference to modern works of foreign authors, and also the entire absence of any German references. Out of sixty works included in the bibliographic index, the English references are those to Benjamin Bell, John Bell, John Hunter, and Fraser. There is one American; none are German; and of the remaining French references, only six appear to include any Franco-German experiences.

W. W. WAGSTAFFE.

Glaucoma: its Causes, Symptoms, Pathology and Treatment. By PRIESTLEY SMITH, Ophthalmic Surgeon to the Queen's Hospital, Birmingham. London: J. and A. Churchill. 1879.

This work represents, with a few slight alterations, the essay to which the College of Surgeons awarded the Jacksonian prize in 1878. As its title sufficiently indicates, it is an inquiry into the pathology and treatment of glaucoma, an affection which the author has had peculiar facilities for studying clinically. It must be allowed that he has spared no pains in performing thoroughly and well the task he set before himself. His book gives ample evidence of careful work and conscientious research. Even where we cannot fully accept his conclusions, we may, at any rate, admire the skill with which he has formulated his views, and the spirit of fair and impartial criticism with which he always speaks of the labours of other workers in the same field.

The first portion of the work deals exclusively with the etiology, as opposed to the pathology, of glaucoma. The author examines, at considerable length, and with a proper amount of scepticism, the reported bearing of certain influences, such as sex, age, heredity, and anomalies of refraction, especially of hypermetropia, on the evolution of the disease. He differs from some recent writers in more or less underrating the power of trifacial neuralgia to induce an acute attack. It can, he considers, excite glaucoma only where predisposing causes have already left the eye in a condition of diminished resistance, and, therefore, of danger. What these predispositions are is stated later on, when the author comes to treat of the pathology of glaucoma, and to develop his own views on this very important and difficult subject. Most observers will probably agree with him in holding that the coincidence of neuralgia of the fifth pair with glaucoma cannot be adduced in evidence that glaucoma is a disease of excessive secretion. The part played by facial neuralgia is probably, in the vast majority of cases, not one of primary importance. It is a coincidence merely, not an exciting cause.

The second and third sections of the work are devoted to the description of a tonometer, invented by the author for his researches, together with a series of pressure-readings obtained by it. In the construction of his instrument, he has adopted the principle of uniform weight in preference to that of uniform impression. The latter method has

already found an expression in Monnik's tenometer, which, as we gather from a foot-note, the author is candid enough to consider as practically superior to his own. His instrument, indeed, labours under one very serious disadvantage, namely, that of becoming less sensitive with each successive rise of intra-ocular tension. However useful, therefore, it may become in physiological research, it is evident that in glaucoma, its employment must necessarily be somewhat limited and unsatisfactory. Besides, it is by no means easy to use, necessitating as it does both very careful manipulation, and a certain amount of calculation. The great objection to it, however, is the inaccuracy with which it registers high degrees of pressure.

The fourth and fifth sections, which are exclusively occupied with the pathology of glaucoma, form the most important and interesting portions of the essay. As is well known, few questions in the entire range of pathology have given rise to more discussion than that of the origin of the increased tension in glaucoma. Twenty years have not sufficed to answer the question satisfactorily. The present contribution cannot indeed be said to solve definitely and conclusively the various doubts and difficulties which beset the subject. Nevertheless, it makes out a very strong case for at least one theory of glaucoma. This theory is one which the author has himself suggested, and which he considers explains more or less satisfactorily all the phenomena present in the disease.

From the outset, he discards the excessive secretion theory of Gräfe and Donders, and accepts that of obstructed excretion, which was first stated theoretically, but never, so far as we are aware, practically demonstrated, by Dr. de Wecker. Leber was the first who showed that the spaces of Fontana, that is, the trabecular tissue immediately around the iritic angle, was the main, if not exclusive drainage-channel for the aqueous humour. Max Knies went a step further, and demonstrated that this channel, viz., the angle of the anterior chamber, was frequently closed and impermeable in eyes blinded by glaucoma. The bearing of these two facts upon the obstruction theory of glaucoma is at once manifest. They are accepted by the author as affording a complete and satisfactory explanation of the pathology of the disease. Here is exactly where we think he errs. No doubt many cases of glaucoma can be satisfactorily explained upon the mechanical theory of interrupted excretion. But all cannot. We are quite prepared to allow that obstruction in the iritic angle may be a fertile source of glaucomatous troubles. But to say that it is the only one, is surely to take more for granted than can be proved either by experimental or clinical evidence.

The author has shown, by a series of well devised and carefully performed experiments, that a very slight difference in the intra-ocular pressures in the aqueous and vitreous chambers is sufficient to interfere with the process of excretion, and consequently to augment intra-ocular tension. In the healthy eye, an even pressure is maintained in the two chambers. Should, however, what the author calls the 'circum-lental space' become narrowed from any cause whatever, the balance of pressure would incline towards the vitreous chamber. The effect of this would be to push forward the iris and lens, and thereby to seal up the principal channel by which the accumulated fluid could alone escape. Hence changes in the shape of the lens, and in the relation existing between its diameters and the circumlental

space, become factors of great importance in the causation of glaucoma. Such, briefly, is the author's theory of the pathology of the affection. In support of it he brings a large amount of evidence, derived both from experimental research and from clinical facts. It is impossible to admit his experiments and his arguments without, at the same time, accepting some of his conclusions. His theory, however, cannot be applied universally to all cases of even primary glaucoma. It becomes inadequate, because, in many cases, closure is not always present, or at least cannot always be demonstrated. It is but fair to state, however, that the author does not pass over these different cases in silence, but meets the objections of Pagenstecher and others with considerable ingenuity and success.

Sclerotomy, in the author's opinion, offers us great advantages over iridectomy, from a therapeutical point of view. In absolute glaucoma, it may at times be substituted for enucleation, although its action is neither so certain nor so safe. He is evidently but little in favour of this operation, which, on the continent, Mauthner and Wecker have recently championed, and which at one time, even in this country, seemed likely to be largely adopted. Most ophthalmic surgeons will probably agree with the author that the only ground on which iridectomy can be displaced by any other operation, is by a distinct proof, that the latter suffices in a large number of cases to remove the glaucomatous pressure with safety to the structure of the eye.

A very valuable appendix, consisting of cases bearing upon the views advocated as to the theory of glaucoma, closes this essay. As already stated, it bears on every page the impress of honest and able work. It is, within its limits, a valuable contribution to the study of glaucoma. The author's arguments, if not always convincing, are, at least always clear and well stated. His style is lucid and readable, and agreeably free from dogmatism. The volume is enriched by some excellent drawings of the microscopical and pathological specimens sent in with the original essay. These enable the reader to judge for himself of the value of much of the clinical evidence adduced by the author, whose conclusions, we feel bound to say, appear in most cases to rest upon the sure foundation of clinical and experimental facts. LITTON FORBES.

Resection of Ribs in Empyema. By W. THOMAS, M.B., Surgeon to the Children's Hospital, Birmingham.

An important series of cases is published by Mr. W. Thomas, in the April number of the *Birmingham Medical Review*. He records nine cases of empyema in which portions of rib were excised, either by himself or by his colleagues, at the Children's Hospital. The success obtained is certainly noteworthy: only one case was fatal, and in this the child, aged eighteen months, was weakened by diarrhoea and much emaciated before the operation, and died six hours after it. Of the remaining eight, four completely recovered, with expansion of the lung, and restoration of the excised rib; three were completely healed, with the lungs in various stages of expansion at the time of writing; and the remaining case was doing well. A short summary of the facts in the eight successful cases may be of more service than separate detailed accounts. The patients were all children, and varied from one and a half to eight years of age. In reference to the history of the illness, in one case it was associated with

measles, once certainly with scarlatina, and once with dropsy and albuminuria, presumably of scarlatinal origin. The period of the illness at which the cases came under observation was from two weeks to three or four months, and in one case eight months; but in relation to the value of the operation now under consideration, it is of more importance to know the period which elapsed between the commencement of the illness and the first external discharge of pus, whether spontaneous or the result of puncture or incision. Thus examined, it appears that the shortest interval between the commencement of the disease and the external discharge was twenty-four days; two or three give intervals of one month, in one of which the empyema opened spontaneously; another opened spontaneously after two and a half months; and the longest case in this respect had had symptoms about four months when the chest was incised. As to the kind of opening made, two appear to have been punctured and treated with drainage-tubes, while one of the spontaneous cases was reopened by incision, and four cases were incised from the first. The interval, during which attempts were made to bring about the closure of the cavity by the usual methods of drainage, washing, and strapping, before the operation of resection was resorted to, was six weeks in two cases, eight weeks in two cases, ten, thirteen, and seventeen weeks respectively, in three others, and thirteen months in the last; this was one which had opened of itself seven months before coming under Mr. Thomas's care, and was the first operated on by him. The operation itself was found to be exceedingly simple. An incision was made along one rib, mostly the seventh or eighth, right down to the bone, for the length required; the periosteum was raised, and the part to be removed, which measured one and a half to two and a half inches in length, was sawn nearly through with a fine straight-backed saw, and the section completed with bone-forceps. In one case, a free opening was made through the thickened pleura. The edges of the wound were brought together by sutures, room being left for a drainage-tube. Mr. Thomas states that if the operation be properly done, the intercostal vessels and nerve are separated with the periosteum, and give no trouble. He thinks it is advisable to take a large piece from one rib rather than a smaller from two or more: and, while the amount of rib to be removed must depend on the individual case, it is better to take too much than too little. The success of the procedure has been already mentioned, but the time required for recovery in each instance should be noticed. Of the seven cases in which the aperture had closed, four weeks had sufficed in three cases, six weeks in three more, and five weeks in the remaining case. The consideration of this series suggests many interesting points. 1. It is quite clear that the operation is perfectly simple and free from risk. 2. As to its *modus operandi*, it is allowed to be efficacious in two ways. Dr. Peitavy, whose paper in the *Bertiner Med. Wochenschrift* was noticed in this journal for 1876, laid more stress on the importance of having a wide aperture for freedom of discharge and facility of injection. Mr. Thomas seems more impressed with the value of the resection in allowing the ribs to fall down upon the collapsed lung, and so obliterate the abscess-cavity. It is true that in at least four of his cases the retention of pus was not entirely obviated by the operation performed, and might have been better met by a counter-opening. Assuming that the free

drainage has but a small share in the result, it is not quite easy to see how the removal of such a small portion of the chest-wall should be the determining cause of the complete closure of the cavity and union of the pleural layers over its whole extent. And it will no doubt be asked whether, after all, some of these cases would not have done as well with a persevering continuance of the older methods. No estimate from probing is given of the size of the cavities, and it is possible that some of them were already much diminished before the final assistance was afforded by the removal of a portion of the resisting arch. This will not account for all cases, least of all for the first case, in which the operation was not performed until thirteen months after the empyema had opened. The recovery of empyema must depend much on the powers of the patient, much on the extent to which the lung is compressed or actually bound down before the pus obtains an exit from the chest; and the recovery of eight successive cases after this operation may be partly due to unusual coincidences in these respects. But it will be allowed that, when pus has been recognised, it is desirable, as soon as possible, to get rid of it, and to bring the lung and thoracic wall again into apposition. In some cases, the expansion of the lung at once suffices; if this fail, the ribs will only slowly adapt themselves to the lung, and then, when every week becomes of importance, from the continuance of discharge, and the risk of the supervention of lardaceous disease, the closure of the pleural cavity can be materially quickened by an operation by no means formidable. F. TAYLOR, M.D.

A Manual for the Physiological Laboratory. By VINCENT HARRIS, M.D. Lond., Demonstrator of Physiology, and Casualty Physician to St. Bartholomew's Hospital, etc.; and D'ARCY POWER, B.A. Oxon., Assistant Demonstrator of Physiology at St. Bartholomew's Hospital, etc. London: Baillière, Tindall, and Cox. 1880.

One of the evils inseparable from the examination system is the appearance, from time to time, of small publications, wherein anatomy is reduced to a tedious series of lists of names of arteries, muscles, nerves, and bones, and where physiology is represented as a crude and unscholarly abridgement of some well-known text-book. If the objects of such works were simply the promotion of the interests of their authors, little could be said against them; this would but represent a principle, base in itself, but often leading to great results. The real harm they do is the encouragement of the worst intellectual vice of the student, the cultivation of the memory at the expense of observation and reasoning powers. This, added to the hurrying and cramming, the fault of the examination system itself, leads to results only too well known, and possessing the sole merit of preventing, to a certain extent, the medical profession from becoming even more overstocked than it actually is.

All honour, therefore, must we render to those who write manuals, which, like Dr. Vincent Harris's and Mr. Power's new work, encourage observation and reason before memory, and make any department of biology a thing of life instead of a list of names in bad Greek and dog Latin. Mr. Holden's *Landmarks* teaches how to know the inside of a man from his outside, which, considering that doctors cannot always dissect their patients, is necessary for those who would live by healing. Yet there are some who

sneer at the study of surface-anatomy as 'unprecise', but cannot forgive the student who fails to distinguish a right from a left trapezoid bone, or who forgets the distinction between the nerve-supply of the extensor carpi radialis longior and brevior. On the same commendable principle which actuated Mr. Holden, Mr. Walsham, in a manual of the pathological collection of the museum at St. Bartholomew's Hospital, encourages the student to study morbid anatomy from specimens rather than from printer's ink. Lastly, what can be more tedious to learn by heart than histology? And what is more useless than learning the microscopic appearances of tissue by an occasional glance at ready-made preparations?

The present work is a concise and complete manual of histology, physiological chemistry, and the use of the microscope, for medical purposes. Instead of being so much untried raw print, every page has for several years been distributed separately day by day to the class over which its authors preside. Thus, one sheet describes the varieties of cartilage, and mentions where they are to be found, and how they are to be prepared. By its directions, the teacher can supply, and the student can work and observe. Instead of cramped paragraphs, savouring of familiar text-books in themselves condensed, we can trace the direct personal influence of recognised practical authorities, not only in the name of one of the authors, but also in the seat of their labours, where Dr. Klein presides, the school, where Mr. Marrant Baker, alike experienced as a teacher and as an examiner, delivers his lectures.

Each tissue is described on a separate page, for convenience of reference when the manual is used in a laboratory. The method of preparation is given before the description of the organ or tissue. This, with the entire absence of all plates, excepting a diagram of a 'paper boat' for embedding specimens in wax, maintains the purely practical character of the work. Indeed, we trust that it may never be used in the private study, unless there be a microscope in that study; for, although it is not without merit as a book of reference when a pathologist desires to ascertain the normal structure of a tissue of which he happens to have only morbid examples at hand, still the learning by heart of any part of the manual would entirely frustrate the objects of its authors. The pages on the liver, kidney, ovary, and testes will be even more useful to the pathologist than to the student, who, however, if he and his tutors follow the directions of the manual, will be able to gain a thorough knowledge of the normal structure of these parts before he studies them in disease, which hitherto has not always been the case. In a work of such merit, we regret to find the confounding of *inter-* and *intra-*lobular veins, through oversight in correcting proofs. The histological department is followed by a section on physiological chemistry, which contains some concise directions on the preparation of proximate principles. The simple rules for obtaining and distinguishing the numerous different forms of albumen will be of great value; and we hope that the student will put all this information into practice, since, when he is called upon later on to examine discharges and fluids from cysts, he will find that the power of testing them for the only principles that there can be any importance in detecting, will be more useful than attempting to remember the exact proportions of salt and out-of-the-way extractives in blood, bile, or

urine. The microscopical portion of the manual is in two parts, one forming the introduction, and treating of the more essential requisites for minute research, the other an appendix on more complicated processes. The table of the approximate magnifying power of microscopes, on the last page, is not the least useful feature in this valuable addition to medical educational literature. ALBAN DORAN.

Pratique Journalière de la Chirurgie. Par ADOLPHE RICHARD, Chirurgien de l'Hôpital Beaujon. Deuxième Edition, revue et augmentée d'après les notes de l'auteur. Par le Dr. J. CRAUK. Paris: Germer Baillière. 1880.

In these days, when so many good surgeons die, like Nicanor, in harness, the public have frequently the melancholy satisfaction of witnessing the publication of the experience of these gentlemen, collected by pupils during their lifetime. A treatise on surgery, representing the opinions and practice of a man who has just died in his prime, is of greater value than a revised edition of the standard work of a distinguished writer, long retired from his professional labours, whether the revision be made by himself or by a pupil. M. Adolphe Richard's work must be placed in a position between these two varieties of surgical literature. The first edition was published shortly before his decease. In it he gives forth opinions which, right or wrong, death gave him no chance of retracting or confirming by further experience. In this second edition, Dr. Crauk has added brief notes of clinical lectures which M. Richard would have published in full, had he lived.

The chapter on Wounds and Abscesses is disappointing. It is far behind its time, nor is there a word on the antiseptic treatment and its opponents. The dressing of crushed limbs with a 'cuirass' of strapping covered with cerate and wool, will hardly be received with favour in this country.

In the chapters on Dislocations and Fractures, as in the remainder of the work, the opinion and the practice of the author are alone dwelt upon; controversies on cases of displacement and details of splints, etc., preferred by other surgeons, are conspicuous for their almost entire absence. In short, we have to deal with the writings of a teacher for his pupils; and very pleasant these writings appear, the easy grace of French literary style not being marred by confusing *minutiae*, only too frequent in Gallic medical literature. M. Richard is a great advocate of gradual extension for the overcoming of the shortening caused by fracture of the shaft of the femur. He applies a modified Scultetus' bandage, with side-splints (the outer not reaching higher than the level of the umbilicus). The upper part of the bandage holds the outside splint to the abdomen; extension is made from the foot, which is then firmly held in place by sewing together the pads of the splints under the sole, and strapping the splints above. For fifteen or eighteen days extension may be continued 'as often as necessary', to obtain an almost complete absence of permanent shortening, by pulling down the foot, and holding it fast between the straps above and the pads below. The large cradles now in vogue are deprecated, and in their stead a small one is recommended, as it simply keeps the bed-clothes off the toes, which is all that is necessary, and does not cause the patient to feel cold. In intracapsular fracture of the femur a swing-splint, much resembling the American variety, is recom-

mended, and all attempts at extension are strongly forbidden. For the after-treatment of fractures, readily held in place, dextrine bandages are considered sufficient; a somewhat complicated form of starched immovable apparatus is described as necessary for those where displacement is more difficult to counteract. Dislocations of the femur on to the dorsum ilii are attributed to forcible adduction and rotation inwards, contrary to Mr. Morris's opinion.

The chapter on Hernia is headed by several diagrams of the inguinal region, of a familiar type, and only moderately confusing for the beginner; next we find a very good description of trusses, a subject not sufficiently dwelt upon in many educational works on surgery. Somehow, the French or Brayer's truss is proved to be the best, although Salmon's is recommended for large unilateral inguinal herniæ. Radical cure of inguinal hernia meets with little favour in this work.

In the section on Vesical Calculus, median lithotomy is strongly advocated. There is a chapter on diseases of women, especially suited for general surgeons not occupied solely in attending uterine cases. Ovariectomy is described in Dr. Crauk's appendix. The *serre-naud* of Kœberlé is preferred for securing the pedicle. M. Richard held pelvic adhesions in great dread, and considered that, when they were diagnosed by vaginal examination, no operation should be undertaken.

There are several other chapters on well-known surgical subjects, too numerous to discuss in a review. We regret that some injuries and diseases, including fracture of the patella, and affections requiring plastic operations, are entirely omitted. We trust that Dr. Crauk may yet find more notes written by his old master, the author, to make his work complete. If somewhat out of date, the *Pratique Journalière* is, at least, written in a style eminently suited for instruction, and worthy of imitation by living writers more conversant with the latest discoveries and improvements.

ALBAN DORAN.

RECENT FRENCH BOOKS.

Des Epanchements de Sang dans les Plèvres, consecutifs aux Traumatismes. Par le Dr. Ch. Nélaton. Paris: G. Masson.

Des Abcès Chauds de la Prostate et du Phlegmon Périprostatique. Par le Dr. Paul Segond. Paris: G. Masson.

RECENT GERMAN BOOKS.

Ammon, F. A. von.—Brunnendiätetik. Neu bearb. v. H. Reimer. 7. Aufl. 8. Leipzig, Hirzel. 3 Mark.*

Arndt, R.—Die Psychiatrie u. d. medicin. Staatsexamen. gr. 8. Berlin, G. Reimer. 1 Mark.

Barth, L.—Untersuchungen üb. d. Pikrotoxin. Lex.-8. Wien, Gerold's Sohn. 60 Mark.

Biedermann, W.—Beiträge z. allgem. Nerven- u. Muskelphysiologie. 4. u. 5. Mittheilung. Lex.-8. Wien, Gerold's Sohn. 1 Mark 80 Pf.

Billroth, Th.—Die Krankheiten der weiblichen Brustdrüse. M. 8 Tfln. u. 55 Holzschn. gr. 8. Stuttgart, Enke. 9 Mark 60 Pf.

Boltzmann, L.—Zur Theorie d. Gasreibg. M. 7 Holzschn. Lex.-8. Wien, Gerold's Sohn. 80 Pf.

Busch, F.—Die Belastungsdeformitäten d. Gelenke. 5 klin. Vorlesgn. a orthopädi. Gebiete. gr. 8. Berlin, Hirschwald. 1 Mark 60 Pf.

Chirurgie, Deutsche.—Hrsg. v. Billroth u. Luecke. M.

zahlr. Tfln. u. Holzschn. 41 Lfg. gr. 8. Stuttgart, Enke. 9 Mark 60 Pf.

Clemens, Th.—Die Heilwirkungen d. Electricität. 11 u. 12. Lfg. (Schluss.) M. 10 Tfln. gr. 8. Frankfurt a./M., Auffarth. 4 Mark.

Gsell-Fels, Th.—Die Bäder u. klimatischen Kurorte d. Schweiz. M. 1 Karte u. zahlreichen Abbildgn. 8. Zürich, Schmidt. 10 Mark.

Habermann, J.—Ueber d. Glycyrrhizin. 2. Abhandlg. Lex. 8. Wien, Gerold's Sohn. 50 Pf.

Handbuch der Frauenkrankheiten.—Red. v. Th. Billroth. 10. Abschn. Mit. 8 Tfln. und 55 Holzschn. gr. 8. Stuttgart, Enke. 9 Mark 60 Pf.

Handbuch der Kinderkrankheiten. Hrsg. v. C. Gerhardt. 4. Bd. 1 Abth., 2 Abth. Bog. 1—21, 3 Abth., 5 Bd. 1 Abth. 1 Hälfte u. 2 Abth. Bog. 1—19. gr. 8. Tübingen, Laupp. 40 Mark.

Handbuch der Physiologie.—Herausgegeben v. L. Hermann. 5 Bd. 1 Thl. gr. 8. Leipzig, Vogel. 16 Mark.

Jasinski.—Welches Heilverfahren liefert bei der chron. Lungenschwindsucht die besten Resultate. Vortrag. Nach d. Poln. bearb. v. J. Schultze. 8. Breslau, Buchh. d. Schles. Presse. 80 Pf.

Jastschensko, E.—Ueber die Nerventätigkeit u. d. Stoffwechsel. 2. Aufl. Lex.-8. Moskau, Lang. 1 Mark.

Unger, L.—Untersuchungen üb. d. Entwicklung der centralen Nervengewebe. M. 2 Tfln. Lex.-8. Wien, Gerold's Sohn. 80 Pf.

NEW INVENTION.

AMERICAN BREAKFAST CEREALS.

It would be of great advantage to the growing girls and boys of the community, and to all persons in active occupation, if more cereal food were introduced into their dietary. For instance, the universal breakfast beverage, tea, would be replaced, or at least supplemented with immense advantage by a dish of porridge, eaten with milk, sugar, or preserve, according to taste and convenience. The scientific side of the question has been stated often enough; and, without going over the oft-repeated formulæ of food values, it must be obvious, from a common sense point of view, that a plateful of warm, nutritious, and digestible food, such as can be prepared from the American A, B, C oatmeal, or whole barley, must be as efficient, as it is an agreeable, preface to the work of the day to come. The time taken in preparing porridge for breakfast, and the care required to produce a satisfactory result, have often been urged to us as a reason for adhering to the dyspeptic cup of tea and the heating coffee. These reasons, however, will not hold good in the case of the A, B, C breakfast cereals, which are so crushed and prepared by steam processes that ten minutes and a very ordinary amount of carefulness will provide a family with a delicious and nutritious breakfast. We earnestly invite our readers to try the experiment for themselves and those under their medical care, especially where there are growing youths and girls, and we feel sure that the result will be equally satisfactory to health and palate. We should like to see these cereals in general use in all the large public and private boarding schools throughout the country; or at least in change with the usual weak tea and stale bread and butter breakfast now in vogue. As an evening meal, too, in winter, how comforting and nourishing would not such a dish of porridge prove to our hungry boys and girls. We may add, that we have used these A, B, C cereals with perfect success as materials for simple puddings and thickening for family soups.

* 1 Mark=100 Pfennings=One Shilling of English money.

MISCELLANY.

A CASE FOR OSTRICH PEPHINE.—An ostrich, long on exhibition at Rome, having been suffocated by thrusting its neck between the bars, there were found in its stomach four large stones, eleven smaller ones, seven nails, a necktie pin, an envelope, thirteen copper coins, fourteen beads, one French franc, two small keys, a piece of a handkerchief, a silver medal of the Pope, and the cross of an Italian order.

COLOUR BLINDNESS.—The Legislature of the State of Connecticut has passed an Act authorising the State Board of Health to prepare rules and regulations for the examination and re-examination of railroad *employés* in respect to colour blindness and visual power, and prescribing the method in which, and the intervals at which, such examinations shall be made. The Act further makes provision for inflicting penalties on any railway company employing persons who are not in possession of a certificate from the examining Board of their freedom from colour blindness. The examiners may revoke the certificate at any time. The State Board was, in the month of May, to recommend two or more medical experts to make the necessary examinations, and the Governor is to appoint two of these gentlemen on the following first of July.

THE MANUFACTURE OF IODINE IN SOUTH AMERICA.—The province of Tarapaca, in Peru, now contains eight manufactories in full work, which produce annually 140,000 kilogrammes of iodine. Three other manufactories are in course of construction, and the production of iodine in 1879 has attained from 150 to 200,000 kilogrammes. Different processes are used to extract iodine from the waters of salt-petre. The first process consists in precipitating the iodine with a determined quantity of sulphate of sodium, and the iodine is afterwards extracted, after having been washed, filtered, etc. The second method consists in adding to the water either sulphate or bisulphate of sodium, until the iodine is transformed into iodohydric acid, which is precipitated by the aid of a solution of chloride of copper. In the first method the crystallization process is used, then the mother waters are distilled with a quantity of bisulphate of sodium equivalent to the density of the iodine.

PROFESSOR HUMPHRY'S REDE LECTURE ON MAN.—In this lecture, delivered at the University of Cambridge, Professor Humphry pleaded for long and patient investigation, especially in coming to the discovery or comprehension of any process, whether of natural selection or any other, by which the large cranial cavity of man can have been evolved in early men. He gave full weight to the argument from the size of the brain at birth, and the perfection of the lungs at the same period. At any rate the brain of primitive man appeared to have been structurally fitted for higher duties than they were ever called upon to perform. His brain was prophetic of his future. Ability is to be measured by the power to deal with the material before us; and thus it is doubtful whether the ability of the present was greater than that of preceding generations, prehistoric or historic. Progress did not necessarily imply improvement, and increased means did not imply greater power, however they might enable power to be wielded with better effect. The physical capability, he thought, long preceded functional activity; and man's advance to civilisation was the result of the response of his nature to his conditions. He believed in the great value of contact and blending of varieties, and attributed the stationary condition of certain races partly to their early progress keeping them exclusive, and to the physical conditions which had walled them in. The climate of the temperate portions of the Eurasian Continent proved favourable to the development of the energies of mammals and men, and the configuration of the northern continent was especially favourable to migration. Thus there had nowhere been through any long period the still dulness of pure blood or the cramping domination of one power. The mingling of

racés in Britain, in a land of great natural advantages and resources, had led to the development of ability in the people to work out freedom, to invent, to adopt international conventions, and to free others. But he perceived dangers in the increased sensitiveness accompanying the great subdivision of labour nowadays. Of the two evils, learned feebleness was a greater evil than ignorant strength. The preservation of the weak and sick did not make the mass of people stronger and healthier; thus there must be sterner sanitary precautions as a foremost question. Would that some of the time spent on Burials Bills could have been spent in considering the crying needs of the health of the living. This misapplication of energy, said Dr. Humphry, had its parallel in the mistaken efforts to prevent the investigations by which physiology might be advanced and the laws of health educed. Few things would tend to the improvement of the race so much as judicious matrimonial selection, and he hinted at the importance of providing a healthy race for the future. Finally, as to man's body at least, and its future, he felt compelled to say that we found ourselves floating on the stream of time; the barque, we suppose, moves on. Sufficient for the day must be the knowledge thereof. Whether we peer fore or aft, it is obscurely.

A NEW FLUID FOR THE PREPARATION OF ANIMAL AND VEGETABLE TISSUES.—At a late meeting of the Philadelphia Academy of Natural Sciences, Professor Barbeck called attention to a fluid invented by Mr. Wickersheimer, of the University of Berlin, for the preparation of animal and vegetable tissues, which surpassed anything before known in its power of preserving the colour, form, and elasticity of specimens treated with it. The fluid is either injected into the veins of the body to be preserved, or the entire object is immersed in it. After having been taken out of the fluid and dried, the elasticity of the tissue and flexibility of the joints are secured. A number of skeletons were shown, in which all the complicated movements could be executed. Some of the skeletons exhibited beautifully the combined movements of the chest, larynx, and other parts engaged in the mechanism of breathing. Several skeletons of snakes, which had been treated with the fluid more than a year previously, permitted undulatory and spiral movements. Lungs thus prepared may, even after years, be inflated by means of bellows. Such old lungs were seen to swell to ten times their size in the collapsed state; the lobes became distinct, the brown colour gradually changed into red, and the whole organ appeared as if taken from a fresh body. Sections of delicate tissues, morbid formations which have been removed by an operation, will appear after months as if in a fresh state, and may thus be preserved for future study. All sorts of vegetable organisms may also be preserved in this fluid. A colony of exquisite fresh-water algae, which had been in the fluid for a year, appeared to be growing in the water. The Prussian Government have purchased this valuable discovery, and the Minister of Instruction has published it in his official organ for the benefit of the scientific world. The formulæ for the preparation of the fluid is as follows: in 3,000 grammes of boiling water, dissolve alum, 100 grammes; common salt, 25 grammes; saltpetre, 12 grammes; carbonate of potash, 60 grammes; arsenious acid, 10 grammes. After cooling and filtering, add to every 10 litres of the solution 4 litres of glycerine and 1 litre of methylic alcohol. The method of application differs according to the nature of the objects to be preserved. Anatomical preparations that are to be preserved dry are immersed in the fluid from six to twelve days, according to their size, then taken out and dried in the open air. Hollow organs, such as the lungs, etc., must be filled with the preserving fluid, then laid in a vessel containing the same liquid, and afterwards distended with air and dried. Smaller animals, such as crabs, beetles, lizards, frogs, etc., if the natural colours are to be preserved unchanged, are not to be dried, but put immediately into the preparation. The same fluid may be used for the purpose of preserving human bodies during transportation, or even for more permanent embalming.

The London Medical Record.

BRUNS ON FRACTURE OF THE HEAD OF THE RADIUS.

PROFESSOR BRUNS of Tübingen, in an original contribution to the *Centralblatt für Chirurgie*, No. 22, 1880, on fracture of the head of the radius, states that this lesion demands more attention from surgeons than it has hitherto received, and ought to be included in the list of typical fractures, as its origin and the form of the fracture are characteristic and regular, and it is not of very unfrequent occurrence. In addition to one case observed by himself, the author has collected from surgical literature twenty cases in which the nature of the lesion had been proved on anatomical investigation. These numbers, however, it is stated, give no idea of the frequency of the lesion, since the diagnosis is frequently attended with much difficulty, and in some cases is impossible.

In this injury the joint is involved, and the fracture takes a vertical or oblique direction from the superior surface of the bone, detaching a portion of the head. The lesion is quite distinct from transverse or oblique fracture of the neck of the radius, by which the head *in toto* is separated from the diaphysis. Of the former lesion, there are two forms—incomplete and complete fracture. The incomplete fracture has been produced experimentally by Bruns, and five clinical instances have been observed by Malgaigne and other surgeons. In the incomplete form, the line of fracture commences at the discoid articular surface, in some cases nearer the periphery, in others nearer the centre, passes down the neck, and ends at a blind extremity, so that the fragment still remains attached by a bridge of bone. The broken surfaces sometimes remain in close contact, sometimes diverge and are separated by a wide gap. This form of fracture may be a fissured one, the head having been broken into a number of fragments, each of which remains attached at its base. In a case recorded by Verneuil, there was a well-marked T-shaped fracture.

In complete fracture, a larger or smaller fragment is wholly detached in most instances from the anterior portion of the head, rarely from the lateral or posterior portions. In this form, the head is rarely broken up into several pieces. If the fracture be limited to the head of the bone, it is purely intra-articular; the fragment lies almost free in the joint, being attached only by a portion of ligament. If the fracture involve both the neck and the head of the bone, it is partly intra-articular, partly extra-articular, and free mobility and displacement of the fragment are prevented by the annular ligament.

In five only of the twenty-one cases collected by Bruns, was fracture of the head of the radius an uncomplicated injury. These numbers, however, it is pointed out, do not really represent the proportion of complicated to uncomplicated cases; since, in consequence of the slight symptoms of the simple fracture, and the difficulty of its diagnosis, the injury may be readily overlooked, or its true nature mistaken. In most of the complicated cases, the fracture was made out by direct observation after the death of the

patient through concomitant lesions, or on resection of the injured joint. The most frequent of the various complications of fracture of the head of the radius is fracture of the coronoid process.

The most frequent causes of the fracture are a fall on the flexed elbow or on the extended hand, and direct injuries from the fall of a heavy body, from machinery, or from a gun-shot wound. In fracture from indirect violence, which is of more frequent occurrence, it is very probable that the lesion is produced through the corresponding portion of the lower articular surface of the humerus, the *eminentia capitata* being driven with such force against the discoid articular surface of the radius as to compress and break away a portion of the latter bone. The fracture, for anatomical reasons, is more likely to occur in the extended than in the flexed position of the forearm. In full extension, the posterior half of the articular surface of the head of the radius is free, and projects posteriorly beyond the end of the humerus, the full force of which, in case of a fall on the hand, is applied wholly to the anterior half of the radial articular surface. In flexion of the forearm, the whole of the upper surface of the radius is in contact with the articular extremity of the humerus. The opinion of Bruns as to indirect fracture of the head of the radius being the result of force acting with the forearm in an extended, and not, as is supposed by some, in a flexed position, is confirmed by the fact of the frequent occurrence, as a complicating lesion, of fracture of the coronoid process, which injury, as has been proved by the investigations of Lotzbeck and Urlichs, is almost always the result of a fall on the over-extended hand and forearm.

Bruns has succeeded in producing the fracture experimentally. On striking with much force the head of the humerus in a removed upper limb, the forearm being extended, and the palm of the hand applied to the ground, he has twice produced a fissured fracture of the head of the radius, and once a fracture, with detachment of its anterior portion. It is mentioned, however, that Von Lesser and Urlichs have effected a like result with the forearm of the detached extremity flexed at a right angle.

It is believed that, if the attention of surgeons in future be directed to this lesion, its diagnosis on the living subject will become more exact. Some help will be given by a clear history of the way in which the injury was produced, and by the presence of such a complication as fracture of the coronoid process. If a portion of the outer margin of the head of the radius have been broken off, a movable fragment of bone might be felt, and at the same time, with alternate movements of supination and pronation, crepitus might be made out. In an instance of incomplete fracture, with a wide gap between the partly detached fragment and the head of the radius, the end of the bone will feel as if enlarged, and present an abnormal prominence. An injury of this kind is very liable, as was shown in a case recorded by Malgaigne, to be mistaken for incomplete luxation of the head of the radius.

From seven of the author's collected observations, information was derived as to the usual mode of healing after fracture of the head of the radius. In three instances there had been osseous consolidation with some dislocation of the small fragment; in one case upwards, in another directly downwards, and in the third case outwards. In one case, the fragment had united with the coronoid process. In each

of the remaining three cases, the fragment had been converted into a free articular body.

W. JOHNSON SMITH.

SIMS AND HAMMOND ON ASPIRATION FOR ABSCESS OF THE LIVER.

AT a meeting of the Medical Society of Virginia, Dr. J. Marion Sims read a paper on abscess of the liver (*Virginia Medical Monthly* for Jan. 1880). In it he gives an account of the operation by Dr. W. A. Hammond of New York, on Dr. E. S. Gaillard, the well known medical journalist, who was relieved of a very uncomfortable series of symptoms by the aspiration of an abscess in the right lobe of the liver, which Dr. Hammond had diagnosed from brain-symptoms only. He also relates the subsequent history of another case operated upon by Dr. Hammond. The patient recovered health, went abroad, and having a recurrence of his former symptoms, by advice of Dr. Sims, consulted Dr. Brown-Séquard, who said positively that he had never had abscess of the liver. Subsequently, a physician in the south of France wrote to Dr. Hammond for information, and, having the history confirmed, repeated the aspiration with the same satisfactory results as before. Dr. Hammond has aspirated the liver for abscess twenty-six times in the last two years, and has drawn off pus in fifteen of these with good results to the patient's health. In the other eleven cases, no bad effects followed the operation. He was, it is believed, the first to introduce this operation for the relief of the special hypochondriacal and cerebral symptoms, often met with in the United States and rebellious to all other treatment; and with the success that has followed it in his hands its employment is a notable advance in therapeutics. His method of diagnosis is to place the patient on the back, put the points of the index and middle fingers of the left hand between the eighth and ninth ribs, a little in advance of the line falling from the middle of the axilla; then, by gentle percussion at a point about two inches above the umbilicus, a little to the right of the median line, fluctuation may be detected by the fingers of the left hand. His method of operating on the right lobe of the liver is to pass the aspirator needle, antiseptically with carbolised oil, through the intercostal space between the eighth and ninth ribs, and about an inch forward of a line dropped from the axilla to the pelvis, pulling up the skin beforehand so as to make a valvular opening. It may penetrate the liver one and a half to two and a half inches; if no pus be met with at the latter depth, it may be concluded that no abscess exists. Abscesses, it is alleged, rarely occur elsewhere than in the right lobe.

Dr. Hammond's original paper on this subject was published in the *St. Louis Clinical Record*, June 1878. The following are its nine propositions. 1. Hepatic abscesses are probably much more common in America than is generally supposed. 2. They may exist without any local symptoms, or such general disturbance of the system as is commonly regarded as indicating their presence. 3. They may be associated with hypochondria and other evidences of cerebral disturbance. 4. They should be opened at the earliest possible moment, and without waiting for adhesions to form between the liver and the abdominal wall. 5. The proper place for performing the operation of aspiration is in one of the inter-

costal spaces. This point is strongly insisted upon by Dr. Davis in his memoir. 6. The operation by aspiration is free from danger. Dr. Davis never saw any ill consequences from it; and Dr. Jimenez of Mexico states that, in the hundreds of times he has punctured the liver through the intercostal space for abscess, he has never once seen the operation followed by peritonitis. In a very admirable paper, Dr. Tausky of New York expresses the same opinion. 7. In all cases of hypochondria or melancholia the liver should be carefully explored, and even if no fluctuation be detected, or any other sign of abscess be discovered, aspiration, being a harmless operation, should be performed. 8. If pus be evacuated, the operation may be expected to be followed by a cure of the mental disorder, as well as by the preservation of the life of the patient from the probably fatal consequences of hepatic abscess. 9. If no abscess be found, the patient will at least be no worse off than he was before.

The paper of Dr. J. C. Davis, alluded to above, appeared simultaneously with Dr. Hammond's first publication in the *New York Medical Journal* for June 1878.

VOLKMANN ON THE QUESTION WHETHER A SURGEON SHOULD UNDERTAKE POST MORTEM EXAMINATIONS.

IN the *Centralblatt für Chirurgie*, No. 26, 1880, Professor Volkmann discusses at length the question whether a surgeon or obstetrician should undertake examinations of the dead body. In dealing with the case of a surgeon who in every-day practice is brought into contact, direct or indirect, with open surfaces and inflamed mucous membranes, the author points out that the discharge and infective material from open wounds are undoubtedly hurtful, and that the danger likely to arise from the action of such material adhering to the fingers or clothing of the surgeon will be most effectually obviated by the antiseptic practitioner, and by one who takes care to disinfect himself thoroughly, and to apply to the open tissues of his patients only such instruments as have just been taken from an antiseptic fluid, and such dressings as are impregnated with antiseptic agents. During the past seven years, it has been the invariable custom in Volkmann's clinic for the surgeon and his assistants to avoid touching any wound or open surface, however insignificant, without having been previously disinfected, and also of all instruments, including the simplest, such as scissors, forceps, and probes, are similarly treated. This rule is strictly adhered to in dealing not only with wounds treated antiseptically in other respects, but also with such wounds as those formed in operations on the face and for hare-lip, to which local antiseptic treatment cannot be rigorously applied. Since these precautions were first established, all accidental wound-affections, Volkmann states, have disappeared in his wards. Phlegmon, not even in its simplest forms, is never seen; and erysipelas, when it does occur—which is a very rare case—presents itself as a spontaneous affection in some subject of ozæna, lupus, or elephantiasis. It often happens that, when shown a series of cases of plastic operations on the face in which the open wounds are healing without any sign of inflammatory reaction, some visitors to Volkmann's wards make the remark that all wounds must heal readily there, because the hospital is so thoroughly

carbolised; whilst other visitors declare that such cases prove the possibility of obtaining results equally good, with or without antiseptic treatment. Both these conclusions, Volkmann asserts, are false. All the cases are treated with as strict attention to antiseptic principles as cases can possibly be to which Lister's plan of dressing is not applicable. The idea of carbolisation of a hospital is regarded as absurd, and it is held that even in the most healthy and, as is supposed, most disinfected hospital, it is still necessary, in every dressing, and in the contact with an open surface of any instrument or local application, to guard off or destroy the ever-present exciting agents of putrefaction and inflammation.

Volkmann describes what is done by him during the summer months, and so proves that a surgeon may work on dead and decomposed bodies without any danger to his patients, provided his hands be subsequently well cleansed and disinfected. Early in the morning he conducts a course of operative surgery, and during two hours his hands are in continuous contact with the parenchyma-juices and the blood of more or less decomposed corpses. After a short interval, he spends the rest of the morning in operating on patients at the hospital. Though this is done only during the summer, he does not meet, as a rule, with more reverses in hospital practice during this season of the year. The only disinfecting agent that is used in the dissecting room, and, subsequently, in the hospital, before and after every examination of a surgical patient, is a concentrated solution of carbolic acid in glycerine; enough of which, when required, is added to cleansing water to form a five per cent. solution. A change of body-linen after work, in the interval between the work on the dead subject and that in the hospital, is thought to be unnecessary. Whilst operating on the living body and dressing patients, Volkmann and his assistants wear linen gowns, three or four of which are used by each every morning. Volkmann objects very much to the wearing of old coats, and regards as questionable the wearing of water-proof aprons and sleeves.

Volkmann, in referring to the custom of some gynæcologists, who, before permitting intending spectators to be present at a laparotomy, require an assurance from such visitors that they have not for some days previously worked on a dead body, dressed a bad wound, or attended a case of puerperal fever, gives it as his opinion that the object in view would be much better attained by simply requesting each visitor to wash his hands in a carbolic acid solution, and to put on a clean linen gown before entering the operating room.

Volkmann holds that such measures will suffice to prevent the hospital surgeon from being a source of danger to his patients; and it is argued that more elaborate means of disinfection would be, for those engaged in extensive practice, as impossible as they are unnecessary. In a busy surgical clinic, however, it is necessary to take certain precautionary measures which, under other conditions of surgical practice, need not be strictly regarded. For instance, when several operations have to be performed in a hospital on the same day, the surgeon should commence with those cases in which the danger of infection is greatest, and put off to the last the cases, if there be any, of septic disease. If Volkmann had, on the same morning, to operate on the peritoneal cavity, to remove a false cartilage from a joint, to excise a fungous joint, to perform herniotomy, and to make incisions for acute progressive

phlegmon, he would take those operations in the order in which they are here mentioned.

In conclusion, it is asserted, that no obstetrician ought to admit into the wards of a lying-in hospital young practitioners and students fresh from the dissecting-room or pathological theatre, until he has made out by direct observation that the above-described measures — cleansing and disinfection of hands and change of coat — have been taken.

W. JOHNSON SMITH. *Medical Record*

PACKARD, WOOD, AND OTHERS ON SOME IMPORTANT ADVANTAGES OF OBLIQUE SECTION OF THE SKIN IN SURGICAL OPERATIONS.

Dr. JOHN H. PACKARD, of Philadelphia, read a paper on this subject before the New York Academy of Medicine on May 6th. He said it was desirable in the great majority of surgical operations to secure an early closure of the wound. There were, of course, exceptions to this, as in tracheotomy and ligation; but even in these it was advisable to obtain a closure of part at least. Both the comfort and the well-being of the patient were promoted by the exclusion of air, and another important advantage was that by these means an avoidance of scars was obtained. This was an especial advantage about the hands and face, and it might be asserted that whatever added to elegance or neatness as the result of injury or operation was worthy the attention of surgical science.

About six years ago, Dr. Packard's attention was accidentally called to the fact that after the oblique section of the skin a wound healed more rapidly and with less scar than if a vertical section was made. He was called to see a woman who had fallen while carrying a glass dish and cut her hand with one of the pieces, inflicting a wound oblique to the skin; it healed rapidly, and the resulting cicatrix was small. It occurred to him to endeavour to imitate this condition of things. On one occasion he removed a bursal tumour over the patella in this manner, and was unable, after healing had occurred, to detect the line of union. Scars should be avoided, not only for the reasons previously referred to, namely their appearance and the rapidity of healing, but also because they were apt to be painful and become the seat of keloid; and, therefore, the less the scar the less was the liability to these accidents. Quite recently he had noticed another advantage, viz., the avoidance of suppuration and less difficulty of union. The cause for this was to be found in the exclusion of air, and the employment of atmospheric pressure for closing the wound. In constructing machinery, it was often necessary to make belting much longer than any hide, and in joining the pieces necessary to make the desired length, the ends were bevelled, or, as it was termed, 'scarfed'. They were made in this way to fit each other, and the ends glued or united by rivets; and the thickness of the belt was not increased. This scarfing was done with great accuracy; sometimes the scarf or undercutting was very long; one which he had seen measured twenty-two inches. Dr. Packard exhibited some samples of belting joined in this way. This fact he regarded as of importance in some surgical procedures. He mentioned a few typical cases in which he had found this method to work well. The first was a mammary tumour in which the skin was slightly

involved. He made two incisions, bevelled so as to fit into each other, and removed the mass, which was of the size of two fists, taking away the gland and the tumour together. He first made the upper incision, then the lower. The larger vessels were secured with carbolised catgut ligatures, and hæmorrhage from the smaller was arrested by sponges soaked in hot water. The edges of the incisions were brought together by three hare-lip pins and sutures, with strips of adhesive plaister between. On the third day the pins were removed; by the fifth, the wound was solidly united from end to end, and there had not been pus enough discharged to moisten the dressings. The second was a case of amputation of the finger for cellulitis following an injury by a needle. No dressings were necessary after the third day. The third case was one operated upon for strangulated inguinal hernia. The incisions were made obliquely, and the hernia was reduced without opening the sac. The edges of the incision were brought together by two silver-wire sutures and hare-lip pins. The healing was nearly dry. There was never more than a drachm of pus discharged, and the cicatrix was a hair-line, and devoid of tenderness. The fourth case was one operated upon for intra-orbital tumour, which pressed the eye out so that it was an inch and a quarter beyond the opposite one. It was removed by a single incision, and the healing would have been dry if it had not been for the cavity. Still the cicatrix was so small, that it was impossible to find it.

No argument was necessary to show the advantage of early union in such a case as that of number three, in which the scar would be compelled to bear the pressure of a truss, and therefore the less there was of it the better. There were cases in which it was desirable to employ a drainage-tube. Many surgeons denied that this should ever be done; but, granting that it should, the oblique section was no impediment, the incision being made so that the part where the drainage-tube was to be inserted was straight and the remainder oblique. He had not yet employed this method in any large operation, but thought it might be used to advantage; but he was confident of its value in smaller ones. The knife used in making it should be sharp, and the bevelling as long as possible. If there was a cavity, pressure should be employed to obliterate it, and hæmorrhage should be checked by the use of carbolised catgut ligatures and the hot water douche, which did not prevent the edges of the wound from uniting. The dressings of carbolised cerate, laudanum, etc., should be left on as long as they were indicated. In conclusion, he hoped that the method advocated by him would prove to be a contribution to antiseptic surgery.

Dr. James R. Wood said that Dr. Valentine Mott, when Dr. Wood was a student, advocated this method, especially for operations about the face and scalp. He felt also and thought that wounds made in all operations about the face and scalp should be healed as soon as practicable. Dr. Mott also used to teach that bevelling was very important in all operations about the face and neck; Dr. Wood had seen him do it, and had done it himself. He had witnessed a very beautiful operation in Philadelphia, in which Dr. Pancoast, senior, made a new nose. In this case he employed his 'tongue and groove' suture: he bevelled off the edges of the flap, which he brought down from the forehead, and made it fit into a groove in the place where the nose ought to have been.

Dr. Frank H. Hamilton said that the idea was to

him a novel one, and he was not aware that any one else had suggested it. He could, however, see one objection to it; by making the oblique incision, the increased thinness of the margin of the flap might give rise to risk of sloughing. By overlapping, a more accurate apposition was obtained, and by the oblique method a large part of the incision was carried through that part of the skin which had the highest vitality, so that there was less of areolar and adipose tissue in it. The cutis vera being incised obliquely, there was a larger surface of highly vital tissue brought into contact. Hence, on theoretical principles he thought the idea a good one, provided the flap did not become too thin.

Dr. Post had not formerly practised the oblique section, but he had been long satisfied of its great importance; and, in order to secure the best union of applying broad surfaces to each other, and where the skin was thin, he had found it valuable to bring broad surfaces of it together, forming a crest in the surface by splints, with perforations in them passing sutures through the perforations. In this way he had cured obstinate fistule. The principle was the same as that in the method advocated by Dr. Packard. Where the skin was thick, as in the lips, it was sufficient to bring broad surfaces together, if a vertical incision was made, especially if hare-lip pins and superficial sutures were employed. He had been in the habit, in closing wounds about the face, of using a large number of exceedingly fine sutures, and here he did not think it was necessary to give an oblique direction to the incision, but where the parts were less closely connected, he thought it might be advisable.

Dr. R. F. Weir, since reading Dr. Packard's article, had had occasion to practise the method twice in the operation of rhinoplasty, and the result so far was desirable. As to the liability to sloughing from cutting off the circulation in practising on the cornea, wounds were often made and healed rapidly, although it was a tissue sparsely supplied with blood vessels. From the result of his experience with the oblique section so far, he felt encouraged to go on.

Dr. Hamilton was reminded that Pearson, in his instruction for opening abscesses, directed that the incision should be oblique, and he had been surprised at the readiness with which the valve thus formed closed. He thought the atmospheric pressure was an important factor in accomplishing the result.

Dr. Packard, in reply, said that, if the edges were brought together by bevelling and careful closing by pressure, there was no trouble in obtaining union. If there were a cavity, it would fill; but if the skin were cut so that the edges were applied and the cavity was filled by bringing the tissues in apposition, there would be no suppurative. He thought that this was possible in all operations. As to the sloughing of the skin, it constantly happened in skin-grafting that a portion of epidermis was taken entirely away from its connection with surrounding parts and introduced to another, and yet the surgeon expected that it would take root and produce a cicatrix. In reference to the amount of difference between the vertical and the oblique incision, it was necessary to divide the skin very obliquely. He was well aware that the idea was not new; and this was especially true of rhinoplasty; he had seen Dr. Pancoast perform operations with the tongue and groove flap referred to by Dr. Wood. But he thought that the extending of the principle to all operations was new. As to whether other tissues should be included in the bevelling, his remarks applied only to the skin.

BORNHAUPT ON THE MECHANISM OF GUNSHOT FRACTURE OF THE LONG BONES.

At the meeting of the German Surgical Congress in April last, Dr. Bornhaupt of St. Petersburg read a paper on this subject. It was an extract from a larger work in the Russian language, having reference to Reyher's collection of preparations of gun-shot fracture. Herr Bornhaupt assumed that real perforating gun-shot wounds of bone are rather rare; they are mostly complicated with fissures, which, however, are less the result of commotion than of a direct action of force. The most simple case is the wedge-like action on the epiphyses, in which the fissures, issuing from the track of the shot in the bone, may extend perpendicularly upwards and downwards, without perforating the articular cartilage. Such fissures are more or less frequent, especially when great force is applied, *i.e.*, when the channel made by the shot is long. The explanation of the forms of fracture in the diaphysis is more difficult. They sometimes resemble a stick bent in its longitudinal axis; or a ring, compressed from two opposite sides. In the first case, there may be simple transverse fractures (mostly through spent bullets), in the second, two, three, or four longitudinal fissures. If the diaphysis be injured more towards the middle part, then the two mechanisms combine in the production of a typical form of fractures, *viz.*, of the 'spiral longitudinal fracture'. The bone divides into four fragments; in addition to an upper and lower, two triangular splinters are to be found opposite the part which has been struck, forming what Bornhaupt calls the posterior longitudinal fissure. He thinks that, when the bullet has not hit directly the posterior wall of the bone, the longitudinal fissure originates through direct force, and not through the hydraulic pressure of the marrow. As a proof of this, as well as of the following statement, he described experiments on a glass cylinder, and showed that the typical fissures often do not occur in so distinct a form, and that, on the contrary, the bullet comes a second time into contact with the wall of the bone, and produces fissures of exit with many, often forty or fifty, splinters, extending through more than half the length of the diaphysis. Herr Bornhaupt had never seen healed fractures of that kind in the femur, to which, principally, his discussion referred. In less firm, but more inflexible bones, the circumstances become more complicated; they may, however, be traced always to compression, and not to commotion. The further comparison with the splintering of glass, as well as the consideration of the histology of the spongy tissue described by von Ebner, prove that it depends on the manner in which the force is applied, whether the brittleness or the fissibility of the bone is affected; whether the bone breaks like glass, or splits like wood. Spiral fractures were explained as resulting either from embryonic torsion of the structure of the bone, or, according to Koch and Filehne, from a twist at the moment when the force is applied. In conclusion, Herr Bornhaupt discussed the reaction which the bone-splinters exercise on the form of the bullet, the increase of the destruction by the latter and other subordinate factors, as, for instance, the presence of pieces of ammunition, which form at the same time centres of infection, and the secondary fractures of the primary splinters, for the study of which he most earnestly recommended experiments on fresh preparations.

Herr von Mosengeil (Vienna), differing from the author of the paper, pointed out circumstances in which a simple perforating fracture, admitting mostly of a favourable prognosis, might occur. He further laid stress on the differences which the quality of the material of the bullet produces in the kind of fracture.

Herr von Langenbeck opposed the conclusions which might be drawn from the statements of Herr Bornhaupt, against the possibility of *débridement* in extreme cases of splintering of the humerus and femur. He thought that, if in such cases the wound were laid open very early, and the loose splinters extracted, it was possible to save the limbs and life of the wounded, especially if materials for antiseptic dressing were at hand.

Herr Bornhaupt thought that a distinction must be made, whether the bullet had struck one or both walls; in the latter case, one could not think of saving the limb, on account of the extent of the destruction, and in the former, one could not think of extraction on account of the size of the splinters.

Herr von Langenbeck said that might be correct as regards the femur, but not the humerus.

Herr Bornhaupt admitted this. Recovery occurred in many gun-shot fractures of the upper arm.

Herr von Langenbeck said that healing did not follow in all cases. He had been successful in a late extraction of splinters, but not in an intermediate one.

Herr Schmidt (St. Petersburg) stated his experience in the last Russian-Turkish war, regarding the healing of gun-shot fractures without extraction of splinters. The latter was only necessary if sepsis occurred, but still there were many individual differences existent. The Turks especially resisted septic poisoning better than other nationalities.

Herr von Langenbeck was of the same opinion.

SMITH ON THE USE OF CERIUM OXALATE FOR THE ALLEVIATION OF COUGH.

Dr. ANDREW H. SMITH reports to the Therapeutical Society of New York, on a series of cases furnished by the following observers: Dr. Hobart Cheesman, 28 cases of phthisis; Dr. George Bayles, 28 cases (7 of phthisis, 3 of chronic bronchitis, 2 of acute bronchitis, 1 of laryngitis, 2 of the cough of dentition, 3 of dyspepsia, 1 of empyema, 3 of pertussis, 2 of rubeola, 2 of spasmodic asthma, 1 of senile asthma, 1 of gastric irritation); Dr. J. R. Leaming, 5 cases of phthisis; Dr. A. Hadden, 3 of phthisis; Dr. F. A. Castle, 2 of phthisis; Dr. C. E. Billington, 10 of phthisis; Dr. A. E. M. Purdy, 2 (1 of emphysema, 1 of bronchitis); Dr. E. M. Cammann, 1; Dr. A. H. Smith, 5 of phthisis.

In the course of Dr. Cheesman's observations, which were made at St. Luke's Hospital, he often intermitted the use of the oxalate for a time, to observe the effect of its withdrawal, and then returned to its use. Thus it happened that sixty-nine distinct trials of it were made, although the number of patients was only twenty-eight. In Dr. Cammann's notes, the data for a diagnosis are fully given in each case. A few of the cases are cited, illustrating as nearly as possible the results obtained.

These cases, extending over a considerable range of different conditions attending the cough, may warrant us in endeavouring to find a solution of the question as to the manner of action of the oxalate of

cerium in cough. Its well-known sedative effect upon the stomach would lead us to expect benefit from it in cases in which the cough is excited or aggravated by reflex gastric irritation; and this accords with the results obtained, especially in some of Dr. Bayles's cases. Perhaps we do not fully appreciate the extent to which gastric irritation exists in phthisis, and the extent to which it aggravates the cough. A poor stomach is always considered a very unfavourable element in a case of consumption; and this may be not alone on account of the obstacle to nutrition, but also on account of irritation reflected to the lungs. The susceptibility of the lungs to reflex irritation is shown by the phenomena of ear-cough, and by the common experience of a persistent dry cough cured at once by a brisk cathartic. But it seems probable that, in addition to this, the oxalate is a direct sedative. Several cases are on record in which a considerable degree of stupor was produced by even moderate doses; and, while the rarity of such a result leads to the suspicion that an impure article was employed, yet the fact that pertussis, the cough of rubeola, etc., have been relieved by it, would indicate that the drug exerts a general sedative action by being taken into the blood. From two experiments upon himself, Dr. Smith is of the opinion that the oxalate is mildly hypnotic.

From a study of the cases presented to them, the committee feel warranted in the following conclusions. 1. Cerium oxalate may be given safely in doses of ten grains or more three times a day, for many days in succession. 2. The only symptom noted from such doses is a slight dryness of the mouth for the first few days. 3. It is probably more efficient when taken dry upon the tongue. 4. Its effects are not fully apparent until it has been taken two or three days, and they continue about the same length of time after its use is suspended. 5. For chronic cough, it is best taken on an empty stomach, early in the morning and at bedtime, with other doses during the day if required, the initial dose for an adult being five grains. 6. It is, in a majority of cases, an efficient cough-medicine, at least for a considerable time, and is very valuable as an alternative with other drugs used for that purpose. 7. It does not disturb the stomach, as do opiates and most other cough-remedies, but, on the contrary, it tends to relieve nausea and to improve digestion. 8. The different preparations in the market are not of equal value, and, when success is not obtained with one, another should be substituted.

ROTHE ON THE ANTISEPTIC (ANTIZYMOTIC) TREATMENT OF ENTERIC FEVER (TYPHUS ABDOMINALIS).

DURING a slight epidemic of enteric fever, which prevailed in Altenburg from August to November 1879, Dr. C. G. Rothe was accidentally led to make a series of therapeutic observations, which he has published in the *Deutsche Medicinische Wochenschrift*, Nos. 11 and 12, 1880.

From the middle of August to the end of October, 25 cases came under Dr. Rothe's observation. Of these 25 cases, he treated the first six by the method which he had employed for some years, and which always yielded him satisfactory results. This consisted, during the first days of the disease, of hourly doses of infusion of digitalis (1 in 100), with aconite and tincture of iodine, until a distinct

effect on the pulse was produced. With this he used permanent cold wrappings, quinine, or, according to circumstances, salicylic acid in large doses; and, in case of necessity, that is, when the temperature remained continually at or over 40 degs. C. (104 degs. Fahr.), cold baths. Of these six cases, one ended fatally in the fifth week. The patient was a girl 15 years old; the case was complicated with double pneumonia. The remaining were somewhat protracted, four to six weeks elapsing before convalescence was established.

On the 17th September, Dr. Rothe received the seventh case for treatment. The patient, a gardener, aged 28, had a high morning temperature of 40.5 deg. C. (104.9 Fahr.) Pulse, 110; he had been ill two days. Digitalis and cold wrappings were ordered. On the 19th September, the morning temperature was 40.7 deg. C., the pulse 120. As severe diarrhoea had occurred during the night, for which Dr. Rothe had for years almost exclusively used the carbolic acid and iodine, in the cases of adults as well as of children, unless some particular indications required a different treatment, he added to the infusion of digitalis (1 in 200), carbolic acid and rectified spirit, of each 75 centigrammes, and 15 drops of tincture of iodine. The patient was directed to take a tablespoonful every hour, and the wrappings were continued. On September 20th, temperature 38.6 C. (101.48 Fahr.), pulse 84; the spleen was slightly swollen. There had been no more diarrhoea during the night. The patient had no thirst, and slept quietly. The patient was ordered to take the medicine hourly during the day; the wrappings were applied only in the afternoon. The subsequent progress of the case was one of steady improvement. The digitalis was omitted on September 22nd. For several days afterwards, the temperature varied in the morning between 37.4 and 38 deg. Cent. (99.3 and 100.4 Fahr.), in the evening up to 38.5 deg. Cent. (100.5); the pulse between 52 and 58. From October 4th, the evening temperature was also normal. The medicine, which had been not so often given, was now discontinued; and on October 10th the patient left his bed, and quickly recovered. The extraordinary effect of the medicine on the vascular system was here such as Dr. Rothe had never before observed under the use of digitalis alone, in such small doses. Although he had used it in all febrile diseases, in combination with tincture of aconite, he has never seen the pulse fall below 80 to 72; he was, therefore, inclined to consider the whole phenomenon as an accident, until he had an opportunity of observing the following case.

A woman, aged 36, came under treatment on September 19, after having been very unwell for several days. The temperature in the afternoon was 41 deg. Cent. (105.8 Fahr.); the pulse 112; tongue covered. She had severe headache. Dr. Rothe gave her carbolic acid and iodine, with tincture of digitalis and tincture of aconite, every hour, and had wrappings applied, the compresses being changed every quarter of an hour during the day. On September 20th there was improvement; the evening temperature was 39 deg. Cent. (102.2 Fahr.); the pulse 82. On the 21st, the medicine was given without digitalis. The improvement continued; the temperature and pulse fell steadily. On September 26, the temperature was 37.4 deg. Cent. (99.4 Fahr.); and the pulse 64. From this time the temperature did not exceed 38 deg. Cent. (100.4 Fahr.); and on October 5th, the patient was convalescent.

The tongue assumed in none of the observed

cases that dry, brown, hard, and crusty surface, which is usually a constant symptom in severe cases; and the gastric symptoms subsided at the latest in the beginning of the second week, being followed by moderate appetite, and a feeling of comfort. Rothe draws attention especially to this condition, in order to ascertain, by further experiments, whether this is also an invariable result of the combinations of carbolic acid and iodine. The effect on the fever seems to take place, sooner or later, between two and ten days, according to the intensity of the infection (general symptoms); and Rothe has, therefore, increased the doses a little, *i.e.*, from one gramme each of carbolic acid, rectified spirit, and tincture of iodine, to 120 grammes of mixture, of which one tablespoonful is given every hour; so that, after two to three weeks' uninterrupted administration, toxic symptoms always occurred. Quinine was not given in any case.

Rothe observes that a comparison of the recited cases of the disease shows that all came under treatment with high morning temperatures (mostly 40 deg. Cent., 104 Fahr., and above), and that in all alike, first the pulse, and then the temperature sank, within from two to seven days; the pulse frequently below the normal, without ever rising to its former height, except when the medicine was discontinued, or given less frequently by way of experiment. That this remarkable phenomenon is not attributable to the digitalis, he does not doubt; for, in the first instance, he has never seen such a constant and lasting diminution of the pulse, from small doses of it, especially in typhus; and, secondly, it was, in all cases, only added to the first bottle of medicine, and was then omitted, and yet the effect was very striking during the later stage, and ceased immediately when the mixture (iodine and carbolic acid) was discontinued. The cold wrappings were continued, in all cases, only for a few days, until the temperature did not exceed 39 deg. Cent. (102.2 Fahr.) permanently; and when it is remembered how little they were able, generally, to effect a lasting and sure cessation of the fever—for instance, in two of the first six cases, in spite of uninterrupted application* during the three or four weeks—they do not afford an explanation of the uniformity of the course.

The assumption of deception, or of accident, would indeed be somewhat forced in nineteen cases, which ran such a uniform course, one after another. Nothing then remains but to ascribe an intense 'antipyretic' action to the combination of iodine and carbolic acid. Whether this occurs in enteric fever only, or also in other febrile infective diseases, remains to be proved. Dr. Rothe has only had an opportunity of trying it in a case of puerperal endometritis with high fever, and with exactly the same result (with simultaneous local medication); the temperature and pulse had fallen on the third day from 39.8 deg. Cent. (103.6 Fahr.), and 112 to 37.5 deg. Cent. (99.5 Fahr.), and 68, and did not rise again.

How can this 'antipyretic' effect be explained, if

it be true? Does a direct influence on the vascular activity take place, as with the digitalis, through stimulation of the vagus or of the cardiac ganglia? or is the cessation of the fever a secondary result, its cause being gradually removed or overcome? Dr. Rothe thinks that both explanations are valid. The febrile action in enteric fever is undoubtedly in direct proportion to the morbid process in the small intestine, the seat of the local, and the source of the general infection. With this centre of infection, the iodine and carbolic acid, being hourly introduced, comes into more or less direct contact, especially after previous evacuation of the intestine; and then the question arises as to a direct development of the antiseptic—the bacterium-destroying—quality of this remedy. In this way the following facts might be explained. 1. A much longer time is required for the manifestation of its effect, if the general symptoms indicate great intensity of the local injury and the general affection. 2. After a partial intermission of this treatment, the febrile symptoms again at once become more acute. Since, however, the fall of the pulse preceded mostly the lowering of the temperature, and remained often at or under the normal for weeks, while the temperature varied between 38 and 39 deg. Cent. (100.4, and 102.2 Fahr), it cannot well be doubted that there is a direct influence on the heart, after the manner of narcotics. Nevertheless, the pulse differs from the digitalis-pulse in not becoming irregular and intermittent.

Another peculiarity in the course of the disease must be pointed out. All the patients, after the first days, as soon as the gastric symptoms had subsided, asserted that they felt quite comfortable; and this subjective feeling lasted uninterruptedly to their convalescence. The latter also, in all, went on without disturbance, and without interruption by those troublesome slight relapses, which frequently seem to indicate, in the fourth or fifth week, some recrudescence of the local lesion.

The medicine itself is readily taken by the patients, both children and adults; and, indeed, for weeks; which cannot be said either of quinine or of salicylate of soda. Oil of peppermint completely disguises the disagreeable smell; and gastric or sensorial disturbances, which sometimes attend the use of the above-mentioned remedies, were never observed. The medicine has also the recommendation of cheapness, a very important circumstance in view of the present high price of quinine. It seems important that the remedy should be given in sufficient quantities (1 to 2 of carbolic acid, and 1 of tincture of iodine, in 120 of water), a tablespoonful being given hourly, until a decided effect on the pulse and temperature is produced, and then every two hours, until apyrexia follows; and it should be continued for three or four weeks. Whether the carbolic acid, without iodine, has the same effect, Dr. Rothe does not know. For the last ten years he has used the combination of carbolic acid with iodine in phthisis, diphtheria, diarrhoea, etc., and has never ventured to give up its use.

Dr. Rothe says that he would not have ventured to publish the results of a small number of observations, if it were not for the desire that they should be repeated, and confirmed or corrected. He hopes that his professional colleagues, if they think the treatment worth a trial, will publish the results of their observations.

* Dr. Rothe usually makes the wrappings permanent. The patient is laid on a wide sheet reaching from the axilla to below the knees, which has been wrung out in cold water, and spread over a large woollen blanket; he is then wrapped in both, so that the feet alone are covered directly by the warm blanket. At intervals of ten or twenty minutes, another cloth, also reaching below the knees, but covering the patient only in front, is dipped in cold water and laid over, which remains until evening. By this, the shock is avoided, which is always unpleasant to the patients, and which disturbs their rest. They often continue to sleep quietly during the change of the outer cloth: the temperature is kept from the beginning at a moderate height (30 to 40 deg. Cent.), without any abrupt fall or rise. The envelope is, as a rule, removed during the night.

WALLER ON MUSCULAR SPASMS, KNOWN AS 'TENDON-REFLEX'.

DR. AUGUSTUS WALLER has a paper on this subject in the July number of *Brain*, which is of great interest when considered in relation to Tschirjew's recent researches on the subject, which were exhaustively reported in the LONDON MEDICAL RECORD, March 1880. Tschirjew concluded, from a number of carefully conducted experiments and apparently incontrovertible arguments, that the spasm of the extensor cruris, which follows a tap on the patella tendon, is due to reflex action, and not to direct stimulation of the muscle by the vibrations transmitted to it from the blow. The one weak point in his argument appeared to be the very short interval which elapses between the striking of the tendon and the commencement of muscular contraction. This interval was just sufficient for the transmission of a nervous impression from the knee to the spinal cord and back again to the centre of the thigh, but allowed no time for the transference of the impression in the cord from the sensory to the motor nerve. Dr. Waller now shows that the time which elapses between a tap on the tendo Achillis and the spasm of the gastrocnemius is practically the same (.03" to .04") as that between the patellar tap and rectus spasm; although in the former case the nervous impression would have to travel almost double the distance that it does in the latter, if the reflex theory were the true one.

Dr. Waller urges that the arguments which have hitherto been used to show that 'tendon-reflex' is a true reflex subserved by a spinal nervous arc, merely prove that a certain influence from spinal centres is necessary to the reaction of muscles by the percussion of their tendons. The reflex tonicity exerted by the spinal cord is probably a *sine quâ non* of tendon-reflex; but the actual muscular contraction is caused by the vibrations of the blow upon the tendon, acting upon a muscle in the necessary condition of tonicity.

The ordinary provocatives of neuro-muscular contraction are ranked by the author as follows, in order of efficacy:

- { 1. The galvanic, or continuous current.
- { 2. The faradic, or interrupted current.
- { 3. Direct percussion of muscle.
- { 4. Percussion of the tendon of a muscle.
- { 5. Percussion of the bone into which its tendon is inserted.
- { 6. Percussion of still more remote parts.

If a muscle react to any one of these stimuli, it will react to all preceding stimuli on the above list. If a muscle do not react to any one of these stimuli, it will also not react to all succeeding stimuli. The stimulus to which a normal muscle reacts ranges between 3 and 4 on the above list; if its irritability be increased, it may react to 5, or to 5 and 6; if diminished, it may only react to 2 and 1, or to 1, or not at all.

Twenty-two cases are tabulated by the author; they all support the view that a greater irritability of muscle to extensible vibration is associated with lesions that isolate spinal segments from superior influences. It does not, however, necessarily follow that each reaction is from the emancipated centre, but only that some influence from the centre (viz., the reflex tonicity maintained by the spinal cord) furnishes to peripheral elements, muscular or intra-muscular, a condition of the reaction.

In the *British Medical Journal* for July 31st, 1880,

Dr. W. A. Hollis publishes a case of locomotor ataxy in a boy, aged 13, which he considers gives support to Tschirjew's views; the facts accord, however, equally well with the explanation more recently given by Dr. Waller of the phenomena of tendon reflex.
C. S. W. COBBOLD, M.D.

LEE ON THE TREATMENT OF WHOOPING-COUGH WITH ATROPIA USED HYPODERMICALLY, AND CARBOLIC ACID INHALATIONS.

DR. WILLIAM LEE (*New York Medical Record*, July 1880) was induced to adopt this plan of treatment, from some observations he had seen in the *Lancet* and in the LONDON MEDICAL RECORD. He used the atropia hypodermically, because of his great faith in hypodermic medication, because the dose of atropia is easily regulated, and because 'the result of all investigation in regard to its action shows not only that cutaneous sensibility is rapidly lowered by it, but that at the same time an anæsthetic effect is produced upon the afferent branches of nerves which originate spasms.' He employed a 1 in 120 solution, injecting one minim or more, according to the patient's age, with ten minims of water, always using it as early in the morning as possible, and repeating it at night if necessary. The carbolic acid solution 'of the strength of five per cent., made with the very best crystals', was used as follows. Five strips of Canton flannel, three inches wide and five inches long, were saturated with this solution, and hung round the patient's bed and about the room at bed-time, and they were moistened with the solution once again during the night. The result of the treatment, he thinks, justifies the belief that with it we may expect a steady diminution of the paroxysms, a change in the character of the whoop, and a cure of the disease in a much shorter time than has been accomplished by any other means. He speaks of 'several cases' having been treated in this way, but gives a meagre account of only two.

Dr. Lee seems to be labouring under the impression that he has produced an original paper. He has done nothing of the kind. If he will turn to the *Lancet* for April 12th, 1879, he will find an article by Mr. Wigglesworth of Liverpool, on the 'Treatment of Whooping-Cough by Atropia', and a little examination will convince him that the bulk of his paper is identical with the article there published. To save him the trouble of reference, it may be convenient to reproduce a paragraph from Mr. Wigglesworth's article, and what may be termed the corresponding passage from Dr. Lee's paper. Mr. Wigglesworth (April 12th, 1879) says: 'A few words as to the *modus operandi* of the drug. Whooping-cough is essentially a "neurosis"; and, if we are to judge from the sensations described to us by those who are old enough to analyse their feelings, it is the laryngeal branches of the pneumogastric nerve that are primarily affected. The result of this affection is that at intervals a series of reflex phenomena present themselves, varying in duration and intensity, which involve nearly all the branches of the pneumogastric. The frequency, however, of the paroxysm is no index to its severity, and conversely; nevertheless, the frequency and intensity of the phenomena exhibited may be, and often are, coincident. Is there any explanation to be afforded of this? I

think so. No one who has much to do with the ailments of children fails to observe what very different effects are produced by apparently the same irritation. In one, there are excited convulsive movements, fever, restlessness, etc.; whilst in another, perhaps of the same family, there is scarcely any systemic disturbance produced. This is probably due to the inherent susceptibility of some children to "sympathetic" action and reflex phenomena; and, as nervous exaltation, or "nerve-tension", is far higher in children than adults, we see, as a rule, greater severity in the paroxysms of youthful than adult life, and, according to idiosyncrasy, greater severity and consequent prostration in some children than in others.'

Dr. Lee, July 1880, says: 'A few words as to the *modus operandi* of the treatment. Whooping-cough is a neurosis, and, to judge from the sensations described to us by those who are old enough to analyse their feelings, it is the laryngeal branches of the pneumogastric nerve that are primarily affected. The result of this affection is that at intervals a series of reflex phenomena present themselves, varying in duration and intensity, which involve nearly all the branches of the pneumogastric. The frequency of the paroxysms is, however, no index to their severity, and conversely; nevertheless, their frequency and intensity may be, and often are, coincident. Is there any explanation of this? I think so. No one who has much to do with the ailments of children can fail to observe what very different effects are produced in them by apparently the very same irritant. In one, convulsive movements, fever, restlessness, etc., are excited; while in another, and perhaps of the same family, scarcely any systemic disturbance is the result. This is probably due to the inherent susceptibility of some children to "sympathetic" action and reflex phenomena; and, as nervous exaltation, or "nerve-tension", is far higher in children than in adults, we find in them, as a rule, a greater severity of the paroxysms of disease than is met with in adult life, and, according to idiosyncrasy, greater severity and greater consequent prostration in some children than in others'; and so on for two pages.

This is indeed a strange coincidence. It would almost seem that Dr. Lee had quoted from Mr. Wigglesworth; but such is not the case—there are no quotation marks, and Mr. Wigglesworth's name is not even mentioned. Dr. Lee's work is evidently supposed to be original.

The credit of introducing belladonna as a remedy for whooping-cough is often assigned to Trousseau, but this mode of treatment has been common property for over a century. Buchhave's *Experimenta circa radicem Atropæ Belladonnæ in Tussi Convulsivâ*, etc., was published in 1785. Trousseau appears to have employed atropia in whooping-cough quite as frequently as the crude drug or its preparations. He says, 'Since atropia has been used in medicine, it has been substituted for belladonna, and with this advantage, that while it possesses all the active properties of the plant, it has a fixed composition which the official preparations of belladonna do not always possess. When the child is very young, I prescribe a solution of one-fifth of a grain of the neutral sulphate of atropia in five ounces of water, a tea-spoonful of which is therefore equivalent to a two-hundredth of a grain of the alkaloid. This is the dose given in the beginning, and it is gradually increased' (English Translation, New Sydenham Society, 1868, vol. i, p. 676). There is nothing new

in the employment of hypodermic injections of atropia in whooping-cough. Dr. Robert Barnes, in the Lumleian Lectures delivered before the Royal College of Physicians (1873), speaking of belladonna, says: 'I have seen nothing so effective in the whooping-cough of children. It may be given in quarter of a grain or half-grain doses, in the form of very minute pills, every two hours, until its tonic action is declared. It may be injected subcutaneously, in the form of atropine alone or in combination with morphia. One-thirtieth of a grain is enough for the injection.'

Nor is there any novelty in the use of carbolic acid vapour in this disease. Years ago, Mr. Blake of Birmingham recommended it, and invented an apparatus for its diffusion. Dr. Robert Lee has employed this mode of treatment on a large scale at the Hospital for Sick Children. He had a vaporising apparatus constructed on purpose, he tells us, and exposed his patients to this vapour in a little room adjoining his consulting-room for an hour or so once or twice a week. Even under this limited use, there was an undoubted amelioration of the severe spasmodic cough.

WILLIAM MURRELL, M.D.

LANDOUZY ON PARALYSIS IN ACUTE DISEASES.

IN an important monograph on this class of diseases by M. Landouzy,* recently published, the author commences by stating his reasons for restricting his subject to the study of akinesia or motor paralyzes, and amongst them, to *superadded* paralysis (*paralysies surajoutées*), that is to say, those which do not essentially form one with the primitive malady, or which only supervene along its evolution as an epiphenomenon or complication (*Lyon Medical*, July 4, 1880). By so doing, he believes himself to be conforming to tradition, for in the language of the schools, the paralyzes in these acute diseases comprise only 'those of the paralyzes which, supervening, either during the course of or more frequently at the decline of convalescence, sometimes even after the cure of acute diseases, evidently arise from them, are dependent on them, but are only an accessory, purely contingent and even somewhat rare accident.' Thus considered, these akinesia may be divided into three classes; 1. The paralyzes arising from acute diseases; 2. The paralyzes which follow acute diseases; 3. The paralyzes evoked by acute diseases. These paralyzes have been pointed out under a great number of different conditions. The writers of the eighteenth century have noted them in variola; J. Frank, after dysentery; Delius of Erlangen, in scarlatina; Bailarger, after erysipelas, etc.; but it is especially diphtheria which has furnished the greatest number. To this disease are referable the antiquated facts of Bellini (1680), of the elder Chomel, of Ghesi, Samuel Bard, etc.; to it also are owing the recent researches of Orillard, Trousseau, Lasègue, Maingault, Gubler, etc. All these paralyzes, however, do not behave in a similar manner; according to the disease in which they originate, they show themselves under different conditions of form, duration and evolution. On this point, that opinion of Gubler's cannot be accepted, which, according to his happy expression, believes in the equality of acute diseases in presence of the paralyzes. On the contrary, each one of them requires a separate description, and this chapter of clinical

* *Des Paralysies dans les Maladies aiguës*. Par Dr. L. Landouzy. Paris: Baillière et Cie.

analysis forms the first part of M. Landouzy's book. In the first rank we find the diphtheritic paralyses, of which the frequency is great: 26 out of 210 cases, according to Rayer, and 10 per cent. according to Sanné; therefore they have more specially attracted attention. Sometimes generalised and sometimes local, they may attack many regions; as a rule, it is the muscles of the velum palati and of the lower limbs which are attacked by inertia (81 times out of 117), but the motor troubles sometimes localise themselves on the bladder and rectum, the motor muscles of the eye-ball (Perati), the agents of accommodation (Trousseau), or even, though more rarely, on the diaphragm and the muscles of the face (Rosenthal). The longer the time from the commencement of the diphtheritic attack that elapses before the appearance of these paralyses, the more they have a tendency to generalise themselves rapidly. There is no relation between their gravity and the apparent degree of the primary intoxication, any more than with the presence of albumen in the urine, a fact to which a certain importance had been attached up to the present time.

M. Landouzy very rightly lays stress on the diaphragmatic paralyses of diphtheritic origin; they are greatly to be dreaded when, in children, after a pultaceous angina, fits of cough and dyspnoea supervene suddenly. Cardiac paralyses, with the paralyses of the oesophagus, are also to be feared, since they represent the most frequent *modus operandi* of death in diphtheritic paralysis. This is an important point, and one well calculated to disturb the calm of those who are inclined to believe in the almost total immunity from diphtheritic paralysis. The bulbar localisations of diphtheria are less rare than is supposed, and such attacks are often the most sudden. M. Landouzy relates, under this head, two cases which came under his own personal observation, of death by syncope, precisely at the moment when danger appeared to be least imminent.

After diphtheritic paralysis, those most frequently met with are unquestionably typhoid paralyses. Like the preceding, they show themselves under the most varied aspects, paraplegia, hemiplegia (Nothnagel), sensorial paralyses, vesical paralyses (Béhier and Hardy), bulbar paralysis (Bailly, Marotte, and Liouville), according as they may be slowly or suddenly generalised, or finally localised. The cases of paralysis of the posterior crico-arytenoid nerves collected by M. Villemain and others, after even slight attacks of relapsing typhus, may be relegated to this category.

Typhoid fever may also give rise to certain motor troubles of a peculiar aspect, such as certain tremblings pointed out by some writers, of which some may put on the appearance of a true sclerosis in patches. The case reported by A. Chauffard affords an interesting example of this class. In this category of facts may also be placed aphasia following enteric fever, a complication which is now thoroughly recognised, and of which Trousseau and J. F. Weisse have cited the first cases. Thus, adds M. Landouzy, paralysis in typhoid fever seems to influence either the centres or the nerve conductor, or the muscle itself.

After the typhoid paralysis comes the turn of paralyses in petechial fever and acute dysentery, with the examination of the doctrine of reflex paralyses in cholera and intermittent fever.

The study of paralysis in connection with variola is of serious interest. The examinations after death, which have been made during later years, contribute

to a great extent to clear up the pathogenesis of these various disturbances. They are not so frequent as was originally supposed, since, out of a total of 2,000 patients, M. Huchard has scarcely found ten cases of paraplegia; but the cases are complete, thoroughly observed, and accompanied by incontestable anatomical verifications. Amongst the latter, the most interesting points are those of atrophy localised in consequence of parenchymatous neuritis pointed out by Joffroy, and the cases of progressive paralysis, with diffused myelitis, which may be credited to Westphal.

As to the paralysis in connexion with pneumonia, already thoroughly studied by Graves, Macario, Rosenthal, Charcot, and Vulpian, and finally and especially by Lépine, their principal interest consists chiefly in the history of the theories to which they have given rise. Considered by Gubler as of anæmic origin, to Lépine they are only the result of atheroma of the cerebral vessels. The hemiplegia of pneumonia, in fact, is almost exclusively met with in old people. As to the pleuritic hemiplegia on which theses have been written by Valicourt, Bertindu, Chateau, Aubuin, etc., the principal characteristic is the absence of intellectual disturbance, impediments of the speech, and the presence of a certain degree of variation. It is especially after purulent pleurisies and washings out of the pleura that the opportunity of observing them has been met with.

In order to form an exact notion of the direct conditions of the mechanism and of the nature of paralysis in acute disorders, in fact, to comprehend in what relations of subordination they stand in connection with each other, two principal questions ought previously to be answered. 1. Is the element of pyrexia capable of hindering the action of the neuro-muscular system? 2. What are the exact data furnished on this question by *post mortem* examinations?

To the first question, M. Landouzy answers unhesitatingly in the affirmative. Pyrexia may act on the neuro-muscular system in two ways, either by bringing on hyperthermic lesions in it, or by impregnating the nerve-axis with morbid agents, like the toxic myelitis, of which the existence is now thoroughly acknowledged. Hyperthermia acts on the muscle from the absence of oxygenation, which brings on the local death of the contractile elements (thick discs), or, indeed, by production of colloid degeneration, or the mouldy condition (*état moisi*). It affects the nerve-conductor (a much more uncommon fact), and may then bring on a true parenchymatous neuritis, a process of which Joffroy's cases are full of remarkable examples; finally, it affects the nerve-centres, as Buhl's observations and Renaut's most recent researches on the hortensia tint seem to prove. The colouring matter of the blood, escaped from the globular element dissolved by heat, filters with the sanguineous serum which serves it as a vehicle across the connective meshes of the grey cerebro-spinal masses; the nerve-element no longer finds in this pathological medium the essential elements of its regular nutrition, and its existence is thus compromised.

As to the impregnation of the nerve-axis by the morbid agents, does it not obviously appear, in presence of the almost constant spinal fashion of the majority of these paralyses, of the intense rachialgia of variola, of the cervico-dorsal pains of typhoid fever; finally of the meningeal inflammation, of which several necropsies have revealed

the existence? In fact, the *post mortem* examinations, now performed with a delicacy which the observers who lived at the beginning of the century had no prescience, have proved the existence of these material lesions in the most distinct way; whether variola, typhoid fever, or diphtheria be taken, it is seldom that anatomical disorders, corresponding exactly with the extent and degree of the paralytic disturbances observed during life (diffused myelitis in small-pox, according to Westphal) meningitic patches, degeneration of the anterior roots in diphtheria, as discovered by Oertel, Pierret, and Déjérine, are not met with.

At the present time, therefore, we find ourselves far in advance of the theoretical ideas which had led the first observers to describe these paralyses under the name of asthenic paralysis of convalescence, of diffuse essential reflex paralyses, etc. Can the peripheral origin itself yet be retained, in presence of this quasi-general consensus of the description of central lesions, especially since the important researches of M. Ranvier, who has demonstrated that the first result of a ganglionic central lesion was to provoke an immediate alteration in the peripheral extremity of the corresponding nerve-conductor (of Doyère's patch)? However, whilst seeming thus to have as a common link the same point of departure, all these paralyses do not reveal an univocal process. They also differ in their local determinations. These differences have their *raison d'être* in individual predisposition, but especially in the nature of the injuring cause. It is easy, in fact, to comprehend that variola and diphtheria do not proceed in the same way in their work of destruction: the first acting specially by the hyperthermic method, like dothenteritis, the second seeming to strike the nerve element especially by means of toxic impregnation.

M. Landouzy gives some interesting particulars of the theory of ascending neuritis (the neuritis migrans of the Germans), a theory especially supported by Friedreich and Leyden, who consider the spinal lesions as consecutive on the propagated inflammation of the palatine nerves. This theory, which the facts of paralyses of the velum palati supervening in the course of a cutaneous diphtheria seem already to have made doubtful, does not seem to have been sufficiently demonstrated, notwithstanding the experiments of Tiesler and Finberg.

THERAPEUTICS AND PHARMACOLOGY.

RECENT PAPERS.

1. HARKIN, A.—Therapeutic Effects of Chlorate of Potash. (*Dublin Medical Journal*, May 1880.)
2. STEARNS, J. H.—Gelseminum in Acute Mania. (*Therapeutic Gazette*, June 1880.)
3. BUTTERFIELD, S. A.—Hay Fever. (*Therapeutic Gazette*, June 1880.)
4. The Treatment of Sea-Sickness. (*El Siglo Medico*, April 25th.)
5. PETIT.—On Metallotherapy. (*Bulletin Général de Thérapeutique*, May 15th.)
6. OTT.—The Action of Jamaica Dogwood. (*Detroit Lancet*, 1880.)
7. DUGAU.—Action of Nitrate of Amyl. (*Revue Mensuelle de Médecine et de Chirurgie*, July 10th.)
8. MORGAN.—On Earache and Chloroform-Vapour. (*National Medical Review*,)
9. The Administration of Salicin and Bromide of Potassium. (*Australian Medical Journal*, May 15, 1880.)

10. FORD.—Use of Jamaica Dogwood in Neuralgia. (*Louisville Medical News*, June 5th.)
11. SEGUN.—On Hyoscyamia as a Hypnotic and Antispasmodic. (*New York Medical Record*, March 27.)
12. MORRIS, MALCOLM.—On the History and Therapeutical Value of Arsenic in Skin-Diseases. (*Practitioner*, June and July, 1880.)
13. HARDWICK.—Boric Acid Ointment. (*Pharmaceutical Journal*, July 3.)
14. DOASSANS and MOURRUT.—On the Active Principle of *Thalictrum Macrocarpum*. (*Gazette Médicale de Paris*, April 20, 1880.)
15. DUJARDIN-BEAUMETZ.—A Peptogenic Elixir for Dyspepsia. (*Paris Medical*.)
16. GATEL.—On Internal Metallotherapy. (*Revue Mensuelle de Médecine et de Chirurgie*, June 10.)
17. TORDENS.—On the Treatment of Whooping-Cough by Benzoate of Soda. (*Journal de Médecine de Bruxelles*, May 1880.)
18. PERATÉ.—On the Treatment of Diphtheria by Carbolic Camphor. (*Bulletin de Thérapeutique*, July 15.)
19. DENME.—Action of Benzoate of Soda in Scarlet Fever and True Diphtheria. (*Allgemeine Wiener Medizin. Zeitung*, No. 24, 1880.)
20. SCHWIMMER.—On Local Treatment of Small-Pox Eruptions with Carbolic Acid. (*Deutsches Archiv; and Berlin. Klin. Wochenschrift*, May 10, 1880.)
21. OLIVER.—On Hydriodic Acid in Asthma. (*Boston Medical and Surgical Journal*, March 4, 1880.)
22. DALE.—On Nitrate of Uranium in Diabetes. (*Boston Medical and Surgical Journal*, Feb. 26, 1880.)
23. BEARD.—On Bromides in Sea-Sickness. (*Medical Gazette*, May 15, 1880.)
24. CORILLEAU.—On Oxalic Acid in Diphtheria. (*Boston Medical and Surgical Journal*, Feb. 26, 1880.)
25. CARPENTER, W.—On Cosmoline in Phthisis. (*Western Lancet*, May 1880.)
26. VAUDOIS and MOUTRE.—On Crude Petroleum in Pulmonary Diseases. (*Le Progrès Médical; and Gazette des Hôpitaux*.)
27. CLAY.—Chian Turpentine in the Treatment of Cancer. (*Lancet*, June 1880, p. 934.)
28. PARK, ROBERT.—On the Administration of Morphia Hypodermically in Large Doses. (*Ibid.*)
29. ROBERTS, CHARLES, and others.—On Eucalyptus. (*British Medical Journal*, June 1880, pp. 866, 949, 993.)
30. HUNT, J.—On Chloride of Calcium in Phthisis. (*British Medical Journal*, July 1880, p. 36.)
31. LEECH, D. J.—Citrate of Caffein as a Diuretic. (*Practitioner*, April, June, and July, 1880.)
32. BEKKART, J. B.—On the Treatment of Asthma. (*British Medical Journal*, June 1880, pp. 917, 960; and July 1880, p. 79.)
33. How to Administer Chloroform. (*British Medical Journal*, July 1880, p. 69.)
34. BEACH.—On Styrene: a New Antiseptic. (*Boston Medical and Surgical Journal*, March 11, 1880.)

1. Harkin on some important Therapeutic Effects of Chlorate of Potash.—Two monographs on this subject from Dr. Harkin's pen have already appeared. The first, entitled, 'The Use of Chlorate of Potash in the Treatment of Consumption and Scrofula', will be found in the *Dublin Quarterly Journal of Medical Science* for November 1861; the second 'On Chlorate of Potash in the Hamorrhagic Diathesis', was read before the British Medical Association, at its meeting in Cork, in August 1879. Dr. Harkin (*Dub. Med. Jour.*, May 1880), as the result of observations extending over many years, considers that chlorate of potash exercises a most potent influence on all maladies dependent on defective nutrition, secretion, excretion, aëration, and molecular metamorphosis; that it possesses the power of developing vital force in weakened constitutions, of retarding the degeneration of the tissues, and of controlling the too rapid

advance of senility due to climacteric conditions. After its continued employment, the patient experiences an increase of appetite, and of neryo-muscular force; all the bodily functions are performed with greater ease, the colour improves, and the flesh-producing power, as shown by increase in weight, is augmented. For internal administration, it is ordered in solution—an ounce of the salt to twenty of water, and of this two table-spoonfuls should be given three times a day, either before or after meals. It has been prescribed for thousands of patients, with wonderful success, and rarely, if ever, disagrees. In one instance, a young man took by mistake an ounce of the salt at a dose, without experiencing any unpleasant symptoms. In the form of a lotion—five grains to the ounce—it is a valuable application to burns and scalds, the healing process proceeding more rapidly than under other modes of treatment. In caries of the vertebræ, and in strumous abscesses and sinuses, its beneficial effects are very remarkable. As an application to ulcers—simple, irritable, indolent, and rodent—it would be difficult to over-estimate its value. The hard and elevated edges of old ulcers give way to flattened and healthy ones, and the excavated surface of the sore is altered by the oxygenating power of the lotion, and replaced by healthy granulations.

2. *Stearns on Gelseminum in Acute Mania.*—Dr. Stearns (*Therapeutic Gazette*, June 1880), from an extensive experience of acute mania, considers that gelseminum is a most valuable remedy. In medicine there is no certain and positive specific; but in cases of acute mania gelseminum comes very near it. A patient labouring under the greatest excitement, with hallucinations of a violent character, can be subdued to calmness and sleep by a few tennim doses of tincture of gelseminum given every half hour, until drooping of the eyelids indicates its specific effect. [Some account of the physiological action and therapeutic uses of gelseminum *sempervirens* will be found in the *British Medical Journal*, June 5th and 12th, 1880.—*Rep.*]

3. *Butterfield on Hay-Fever.*—Dr. Butterfield (*Therapeutic Gazette*, June 1880), when called to a case of obstinate sneezing, the result of hay-fever or ordinary coryza, applies to the Schneiderian membrane of each nostril, by means of cotton-wool tied on the end of a small stick, from a third to half a grain of morphia in powder, ordering at the same time two drachms of quinine to be taken in the twenty-four hours. The morphia arrests the sneezing in from ten to twenty minutes, and a few more applications, should there be any return, will complete the cure. Should the patient be chilly, he is put to bed with three or four hot steaming bricks, and given jaborandi till he sweats freely. [Dr. Ferrier's formula for curing a cold in the head, is hydrochlorate of morphia, two grains; acacia powder, two drachms; and nitrate of bismuth, six drachms. Of this from a quarter to a half may be used as a snuff in the twenty-four hours.—*Rep.*]

WILLIAM MURRELL, M.D.

4. *On the Treatment of Sea-Sickness.*—In the *Siglo Medico* of April 25th, 1880, a writer, who signs himself 'C.', in discussing affections of the stomach, makes the following remarks as to sea-sickness. He considers the affection to result from a complexity of causes, such as sight, smell, and mechanical disturbance of the viscera. Up to the present time no drug has been found of much use except chloral, which should be taken at the moment of embarkation in doses of 1 to 3 grammes (15 to 45 grains). Hypo-

dermic injections of morphia may be of great service, when the vomiting commences with pain in the stomach or any other part of the abdomen. But cases are met with in which morphia will itself cause vomiting; in such he recommends a mixture of morphia and atropia, in the proportion of 10 centigrammes of morphia, and 1 of atropia, to 20 of aqua lauro-cerasi. In the vomiting of pregnancy he gives alcohol in the form either of rum, kirsch, or chartreuse, administering it in drops on a lump of sugar; pepsine in doses of 50 centigrammes; and tincture of iodine, 5 to 10 drops in syrup. When these fail he has seen ether-spray, applied to the abdomen, succeed, the patient being made to eat immediately after the application. Tobacco-smoke, as recommended by Gros, may also be tried, and injections of morphia or enemata of chloral. When all these fail, he would either dilate the cervix or induce premature labour.

5. *Petit on Metallotherapy.*—Dr. Petit (*Bulletin Général de Thérapeutique*, May 15th, 1880) reports several interesting cases of nervous affections, in which this method of treatment proved eminently successful. One of these occurred in a boy, aged 14, who suffered from 'hysteria' with contraction of the lower limbs, general anæsthesia, and ischæmia. Faradisation stimulated the capillary circulation, but did not affect the anæsthesia. The application of gold discs caused within ten minutes a return of sensibility in a zone around the point of application. This zone increased at subsequent sittings, with the result that, at the end of three months, the general sensibility and movement in the lower limbs had become normal. Discs of other metals and of wood had previously been tried, but had produced no effects. The next case recorded is that of a young woman, who had been for four years under treatment for various manifestations of hysteria. Her symptoms were anæsthesia and paresis of the left hand, anorexia, constipation, meteorism, amenorrhœa, and contraction of the flexors of the right leg. She was sensible to gold and copper. Discs of the former metal caused the anæsthesia, hyperæsthesia, and contraction to disappear, but they returned as soon as the metal was removed. Subcutaneous injections of chloroxyde of gold removed the symptoms in two months, but the application of discs caused them to return, a proof that the cure was not definitive. CASE XVI affords a good instance of the efficaciousness of metallotherapy against hysterical contraction. The patient suffered from spasmodic contraction of various muscles, including those of the œsophagus and vagina, in a very exaggerated form. The left arm was contracted during two years; there was general amyosthenia and anæsthesia, together with hyperæsthetic points along the course of the cord. Blood did not flow on puncture of the skin, the hands and feet were constantly cold, while the patient suffered intensely from ovarian pain, insomnia, palpitation, and vomiting. Chloride of gold and sodium internally, and discs of gold placed on the limbs, caused apparently a complete cure, so much so that within a year after the commencement of treatment the patient married. The hysteria was, however, still present, as shown by the fact that, shortly after marriage, a most intense vaginismus became developed. This was cured, after the failure of other treatment, by chloride of gold and sodium, and the topical employment of gold cylinders gradually increasing in size. A curious feature in the case was the fact that, simultaneously with the employment of gold anklets, the sensation of intense cold

in the feet was no longer felt, the patient being able to dispense with the hot jar which had previously been necessary all the year round. CASE XVII is that of a female, aged 40, who suffered intensely from vesical spasm, and in whom the passage of a catheter frequently occasioned convulsions and syncope. So much did the patient suffer, that she would sometimes remain two or three days without eating or drinking, in order if possible to avoid catheterisation. In this case gold aggravated the symptoms, while silver and iron had the effect of at once putting an end to them. Within one hour of the application of discs of the above metals, micturition took place spontaneously and without pain. Subsequently, on various occasions, when employed, they always yielded the same successful result.

LITTON FORBES.

6. *Ott on the Action of Jamaica Dogwood*.—A fluid extract prepared from the root-bark of *Piscidia Erythrina* (N. O. Leguminosæ)—used by the natives of the West Indies for catching fish, which it appears to stupify—has lately come into use in the United States as a narcotic. The active principle of the bark has not yet been isolated. Ott's experiments (*Detroit Lancet*, 1880) were performed on frogs and rabbits, and on himself; he employed the fluid extract deprived of its alcohol by evaporation. A full dose produced salivation, sweating, dilated pupils with amblyopia, increased fullness of the pulse, and decided drowsiness. Pharmacological analysis led to the following conclusions: the drug is sudorific and sialogogue; it does not affect the motor or sensory nerves; it lessens reflex action in the frog by stimulating Setschenow's centres; it causes tetanic spasms by its influence on the spinal cord; it dilates the pupil; it raises the arterial pressure by stimulating the vaso-motor centre in the medulla, and then lowers it by its depressing action on the heart; finally, it kills warm-blooded animals by asphyxia. [Further experiments are undoubtedly needed before the above conclusions can be accepted as final.—*Rep.*] E. BUCHANAN BAXTER, M.D.

7. *Dugau on Nitrite of Amyl*.—Dr. Dugau has just published a thesis on this subject, the materials for which were carefully obtained in Professor Marey's laboratory, with the help of M. François Franck (*Recherches Critiques et Experimentales sur le Nitrite d'Amyl*, Paris, June 6th, 1879). After a good historical account of the previous researches intended to study the action of nitrite of amyl on the vessels of the heart, the respiration, blood, and temperature, the author details his own experiments, which have been made on himself and on various kinds of animals (*Revue Mensuelle de Médecine et de Chirurgie*, July 10th). He has specially endeavoured to thoroughly determine the influence of inhalations of nitrite of amyl on the circulation, and has, in relation to this part of the subject, confirmed the majority of facts already ascertained, namely, the lowering of the arterial tension, the dilatation of the small vessels, and the acceleration of the pulsation of the heart. In his opinion, these effects can only be explained by an action of this substance on the peripheric, cardiac, and vascular systems. The nitrite of amyl acts in fact on the heart and on the vessels of the submaxillary glands, after all the nerves have been cut; with strong doses, a diastolic arrest of the heart is obtained. M. Dugau believes that the dilatation is active and not paralyzing, since a direct or reflex action causes contraction of the dilated vessels. The cardiac acceleration seems to be in relation with the fall of the arterial tension; it is ob-

served even when the heart is entirely removed from the influence of the central nervous system. The nitrite of amyl weakens the excitability of the striated muscles. If it is applied directly to the muscle, it destroys all excitability in less than a minute. The author concludes his thesis by an account of the use which has been made of this drug in therapeutics.

8. *Morgan on Chloroform Vapour in Earache*.

—Dr. Morgan states (*National Medical Review*) that he has often promptly relieved the distressing earache of children by filling the bowl of a common new clay pipe with cotton-wool, upon which he dropped a few drops of chloroform, and inserted the stem carefully into the external canal, and, adjusting his lips over the bowl, blew through the pipe, forcing the chloroform vapour upon the membrana tympani.

9. *The Administration of Salicin and Bromide of Potassium*.

—A correspondent of the *Australian Medical Journal*, May 1880, writes: Salicin may be dissolved in water by adding a drachm of bicarbonate of potassa to a drachm of salicin. It will dissolve readily in three ounces of water, so that it is easy to combine the alkaline treatment of rheumatism with salicin, if any should so desire to do. The solution of salicin by bicarbonate of potash is an agreeable bitter, to which can be added more alkalies, if desired. Even children take it readily. The above solution of salicin will also be found useful in the earlier stages of enteric fever; at least, it has so appeared to me. Of bromide of potassium, the bitter salt taste is easily overcome by giving three drachms of simple syrup with each drachm of the bromide. The syrup, if properly made, should contain about 150 grains of sugar. This completely alters the taste, giving it an agreeable nutty flavour, not unlike to cocoa-nut milk, if largely diluted. Children take it with avidity. The sugar in no way alters the medicinal virtues of the drug. This is a boon to epileptics and others who have to persevere in large doses of the bromide.

10. *Ford on Jamaica Dogwood in Neuralgia*.

—Dr. M. Ford writes to the *Louisville Medical News*, June 5th, 1880: I have used Jamaica dogwood in but two cases, both cranial neuralgia in nervous, delicate females, aged 24 and 27 years. Both patients are subject to very obstinate attacks of neuralgia, for which I have frequently prescribed for some years. Miss B. was suffering several months ago with an attack more severe than usual, from which for days she got only partial relief, as she could not bear opium, and no sleep except from full doses of chloral and bromide of potassium combined. A small bottle of the fluid extract of Jamaica dogwood was left in my office just at that time, and I determined to try it on this case. I took it to my patient next morning—she was still suffering—and gave her two drachms, with the assurance it would relieve her, and directed her to take two drachms more at night, and she would have a comfortable night's rest. When I called next day she said the pain ceased in about half an hour after she took the medicine, and she had slept better that night than she had for weeks. I saw nothing more of her, until two days ago I met her in the street. She said her neuralgia had not returned, that she had been perfectly well since I saw her, except an attack of sick headache, to which she was subject; and that the medicine I had given relieved her neuralgia so quickly she thought it would cure her head also, and took a dose (two drachms). 'How did it act?' I asked. 'Well, I went right off to sleep, and did not awake until next morning, when I felt as fresh and comfortable as I ever did.' In the

other case the same dose (two drachms) was given, with the same result; the neuralgia ceased in about an hour, and she has had no return since, which in both cases is a longer interval free from neuralgia than they have had for years.

11. *Seguin on Hyoscyamia as a Hypnotic and Antispasmodic.*—Dr. E. C. Seguin (*New York Medical Record*, March 27), thus sums up what is at present known of the action of hyoscyamia. 1. It acts on the pupil as a mydriatic. 2. It reduces the pulse generally, increasing arterial tension. 3. It checks body heat. 4. It produces hallucinations and delirium. 5. Its use is occasionally attended by a rash. 6. In large doses it produces sleep and something like paralysis or paresis, and may induce retention and dysuria. 7. Theoretically, it is indicated in mania attended by restlessness, delusions and suspicions, and in insomnia and convulsive affections. 8. It has been of special service in acute or subacute mania, insomnia, and those cases characterised by a mischievous delirium. 9. It induces sleep more certainly than chloral, and without being followed by bad effects. 10. In paralysis agitans, it can do what no other remedy can. 11. It is a diuretic of no mean power. 12. The curative power does not seem to be great. In acute chorea its use may play an important part. It can be given with ease hypodermically in small doses. The dose of the amorphous hyoscyamia is from one-twentieth of a grain to one grain (three to sixty-five milligrammes). For hypodermic use, one one-hundredth to one twenty-fifth of a grain (0.65 to 2.5 milligrammes) may be injected. The following is a convenient formula for its hypodermic administration: R. hyoscyamia (Merck's crystallised), one part; carbolic acid, one part; water and pure glycerine, of each one hundred parts.

12. *Morris on the History and Therapeutical Value of Arsenic in Skin-Diseases.*—In the *Practitioner*, for June and July 1880, Mr. Morris gives a very able summary of all that is known upon this subject. Dioscorides, Galen, Pliny, Cælius, Rhazes, Avicenna, and Paracelsus, were all conscious of its value, and habituated to its use. In the sixteenth and seventeenth centuries, Wirth and Jean de Gorris made use of arsenic in many diseases. In 1700, Adrian Slevogt published a treatise on the subject, his views being supported by many other observers. In 1786, Dr. Fowler, of Stafford, published his pamphlet, giving a prescription for the preparation so well known by his name. Since this period the writers for and against the medicinal use of arsenic, in a variety of ailments, have been legion. In skin-disease, especially lepra, arsenic owes much of its reputation in this country to Dr. Thomas Girdlestone, of Yarmouth, who, in his letter to the *Medical and Physical Journal*, of London, in April 1806, says: 'Although I had frequently used with success the arseniate of potash in mesenteric and many other scrofulous affections, yet Mr. B. was the first patient on whom I tried the effects of this medicine in lepra. After fourteen years' trial of many other remedies, he was at last cured by small and repeated doses of arseniate of potash. It is now several years since his cure was completed, and my experiment and success have extended to some hundred of cures of lepra, lichen, prurigo, psoriasis, tinea, etc.' From this time the use of arsenic in skin diseases became well known; yet Willan, in the first edition of his work, makes no mention of it. No man, possibly, ever gave arsenic so liberally as Mr. Thomas Hunt, and his experience after thirty years' free and constant

use, was, that he had rarely known it to produce any unpleasant effects on the system, there being few medicines less likely to do harm than arsenic. The action of arsenic on the digestive canal, has a marked effect, being specific. It appears to diminish oxidation of the tissues by preventing the blood-corpuscles from receiving too much oxygen in the lungs, and it increases muscular action, as seen in the Styrian arsenic-eaters, by diminishing the quantity of carbonic acid; and the less oxygen there is in the blood, the greater is the stimulation of the respiratory centre, and, as a direct result, breathing is easier. The effects of arsenic on the nervous system are obscure. In small doses it may produce headache; in large, symptoms of paralysis. Arsenic is eliminated by the skin, kidneys, liver, and mucous membranes generally. In psoriasis, of all other diseases, the effects of arsenic have been most marked; yet, in this disease, some cases, so far from being benefited, are decidedly injured by its use. In cases that have improved, it has been noticed that the improvement has coincided with a diminution of the coloured corpuscles, as measured by Dr. Gowers' instrument. This appears contrary to Dr. Gowers' experience, that arsenic, like iron, increased the corpuscles. Such is the case in anæmia, when first given; but, if continued for any length of time, or administered in bulk, then the number of both white and red corpuscles are diminished. Cases of psoriasis are recorded which have been cured by accidental, copious bleeding. Mr. Hunt always bled in severe cases. Psoriasis usually attacks people in good health and very often those of plethoric habit. Mr. Morris does not think arsenic a depressant, but an economiser; with M. Gubler, he says, 'arsenic is a contra-stimulant, and antipyretic, but not a tonic; it is opposed to waste, but creates no strength. In preventing the organism from rapidly wasting away, it permits the reconstruction and storing up of fat, whence the appearance of health.' In lichen planus, some forms of chronic eczema, pemphigus, chronic urticaria, herpes and acne, arsenic possesses undoubted value.

13. *Hardwick on Boracic Acid Ointment.*—Dr. Hardwick recommends the following (*Pharmaceutical Journal*, July 3rd), as being the best preparation for the purpose of local application, and might be named glycerine of boracic acid. The form for its preparation is: Starch, 1 drachm; glycerine, 1 ounce; boracic acid, as much as is ordered. Dissolve the acid in the glycerine, add the starch, and heat to the boiling point. When made a drachm in an ounce this preparation leaves nothing to be desired; the base is of good consistence, the active ingredient is in a state of perfect solution, and on that account may be expected to have a quick and effective action. When made with two drachms to the ounce a small part of the acid separates out in microscopic crystals; but even then the state of division is far greater than can be obtained by trituration. When it is desired to incorporate boracic acid with lard or other fatty base, the addition of a few drops of glycerine (about 20 minims to a drachm) materially facilitates its pulverisation.

14. *Doassans and Mourrut on the Active Principle of Thalictum Macrocarpum.*—MM. Doassans and Mourrut have found that there exists in the thalictum macrocarpum (N.O. Ranunculaceæ) a Pyrenean species, two principles which can be isolated in a pure state, and which have not been pointed out by any writer before M. Doassans made his researches. One of these principles—crystallised, and of a yellow

colour, extracted from the roots in M. Wurtz's laboratory—was the subject of a communication to the Paris Société de Chimie by MM. Doassans and Mourrut, in Nov. 1879. It was shown under the name of thalictrine. Their further researches show (*Gazette Médicale de Paris*, April 1880, p. 217) that the product presented under this name contains another principle, which allowed separation by means of washings with ether; evaporation of this vehicle yielded definite colourless crystals possessing the toxic action and the physiological properties of the extract of the root, facts which have been ascertained by the writers of the paper, in conjunction with M. Boche-fontaine, in M. Vulpian's laboratory. The search for this new principle in the roots was then undertaken in M. Vulpian's laboratory; and it was easy to isolate it by treating these roots with alcohol in presence of tartaric acid, afterwards saturating the concentrated liquor with an alkaline carbonate, and recovering the extract by ether; the spontaneous evaporation of this liquid has yielded the alkaloid slightly coloured by foreign matters, and possessing all the qualities of the vegetable alkaloids. In the residuum of the extract recovered by alcohol, the presence of the yellow crystals already mentioned was noted. The alkaloid thus obtained occurs in the form of prismatic needles grouped in a star-like form round a common centre; it is insoluble in water, soluble in alcohol, ether, and chloroform. It neutralises acids well, and forms crystallised salts. The experimenters have succeeded in obtaining the sulphate, the nitrate, and the hydrochlorate. MM. Doassans and Mourrut intend to name this alkaloid thalictrine, and they designate the yellow crystallised product by the name of macrocarpine, which will thus call to mind the Pyrenean species in which it originates. The writers of the paper think it right to speak of a letter written to one of them by Professor Flickiger of Strasburg, who points out the presence of berberine in thalictrum flavum L. This letter shows that M. Flickiger has not isolated the principle—he has simply pointed out, in conformity with a characteristic reaction, the presence of berberine in the plant he was studying. It is probable that the substance caught sight of by Professor Flickiger is none other than macrocarpine, which possesses the greater part of the reactions of berberine. Nevertheless, the reaction with ammonia is not the same for berberine and macrocarpine; in fact, ammonia colours the former brown, whilst it has no action on the second.

15. *Dujardin-Beaumetz on a Peptogenic Elixir for Dyspepsia.*—In those cases of dyspepsia in which the indication is to favour the secretion of the gastric juice, and to introduce peptogenic substances into the stomach, M. Dujardin-Beaumetz employs the following preparation (*Paris Médicale*):—Dextrine, 10 grammes; rum, 20 grammes; sugar — syrup, 60 grammes; water, 120 grammes. This elixir has a pleasant taste, and is very useful in atonic and putrid dyspepsia.

16. *Gatel on Internal Metallotherapy.*—In reference to the case of an anæsthetic patient under the case of M. Lejeune, who recovered sensibility under the influence of very thin laminae of gold administered internally, M. Gatel has written (*Revue Mensuelle de Médecine et de Chirurgie*, Jan. 10, 1880, p. 432) a paper of which the conclusions are as follows. 1. Gold, and probably the other metals, given internally in the natural state, act, as on the skin, by the simple action of contact. It is a phenomenon of probably electric nature, in which we

find nothing in common with the physiological effects of a corresponding chemical compound. 2. The simultaneous internal administration of an active metal and an inactive metal does not allow the return of sensibility; in the same way that in the skin, according to a known law, the sensibility brought back by an active metal disappears when a plate of inactive metal is placed on the active agent.

17. *Tordeus on the Treatment of Whooping-Cough by Benzoate of Soda.*—Dr. Edward Tordeus has given benzoate of soda with successful results in four cases of whooping-cough; he used the prescription recommended by Letzerich, of which the formula is as follows (*Journal de Médecine de Bruxelles*, May 1880): benzoate of soda, 5 grammes; distilled water and peppermint water, of each 40 grammes; syrup of orange peel, 10 grammes; take two fluid drachms about every hour. M. Tordeus believes himself to be authorised to conclude that benzoate of soda has a favourable action on whooping-cough, of which it diminishes the violence and the frequency of the fits. It also possesses the advantage of acting on the respiratory mucous membrane, and thus preventing the manifestation of the pulmonary symptoms which unfortunately often supervene in the course of whooping-cough, and convert it into a serious affection.

18. *Peraté on the Treatment of Diphtheria by Carbolised Camphor.*—M. Peraté has for the last two years used carbolised camphor for the treatment of diphtheria. He paints the surface with a pencil dipped in the following mixture (*Bulletin de Thérapeutique*, July 15):—Carbolic acid, 9 grammes; camphor, 25 grammes; alcohol, 1 gramme, diluted with equal parts of oil of sweet almonds. The paintings are made every two hours in the day, and every three hours in the evening; then, after some days, they are divided by periods of three, four, or five hours, according to the improvement of the patient. These paintings are made over the whole extent of the false membranes, and with troublesome children the pencil is plunged as deeply as possible to the bottom of the throat, being, of course, previously drained. The mixture has an extremely disagreeable taste, to which, however, the patient soon becomes accustomed. M. Peraté has been very successful with this plan of treatment.

19. *Demme on the Action of Benzoate of Soda in Scarlet Fever and True Diphtheria.*—Dr. Demme makes the following statement in the yearly report of the Children's Hospital at Bern (*Allgemeine Wiener Medizinische Zeitung*, No. 24). He has treated twenty-seven cases of diphtheria with benzoate of soda internally and externally. Internally, as large a dose as possible was given (5 to 20 grammes daily, dissolved in 100 to 125 grammes of water, with the addition of 1 to 1.5 grammes of liquorice juice). The external application was made by sprinkling the diphtheritic patches with alcoholic solution of benzoate of soda by means of an ordinary laryngeal insufflator. The applications were repeated every two to four hours. If the local disease were spreading rapidly and the lymphatic glands of the throat were swollen, Dr. Demme injected benzoate of soda into the retromaxillary and submaxillary regions, and even into the swollen tonsils. Cold wrapping of the body was employed at the same time for the lowering of the temperature, and cooling baths when there was severe fever. In septic forms of the disease, he administered cognac (5 to 75 grammes daily). Of the twenty-seven cases which were treated in this manner, six, or 22 per cent., died, which must be

called very favourable when the severity of the cases is considered. With regard to the special effect of benzoate of soda, Demme arrives at the following conclusions. 1. Benzoate of soda is an effective antimycotic, both as an internal and as an external application. 2. The application of benzoate of soda, in the form of insufflation on the infected spot, favours the secretion of the mucous membrane and essentially promotes the separation of the diphtheritic deposit. 3. A reduction of temperature is not produced by benzoate of soda. 4. In all his cases, Demme saw under the continued use of benzoate of soda an increase in intensity of the contractions of the heart, generally with diminution of their frequency, and increased discharge of urine. 5. Benzoate of soda had no effect on nephritis, with regard to the secretion of albumen. The doses, which produce a good effect in diphtheria are, according to Demme, the following: for children from 3 to 6 months old, $2\frac{1}{2}$ grammes daily; from 7 to 12 months, 5 grammes; from 1 to 2 years, 7.5 grammes; from 3 to 7 years, 12 to 15 grammes daily. Demme never observed unpleasant symptoms after such doses.

20. *Schwimmer on Local Treatment of Small-pox Eruption with Carbolic Acid.*—Dr. Schwimmer, in the *Deutsches Archiv*, describes his method of applying Lister's carbolic acid paste, in small-pox, with the view of preventing pitting. The paste (acidi carbolicii 4.0—10.0; olei olivæ, 40.0; cretæ trit. alb., 60.0) is applied to the face upon a linen mask, with openings for nose, mouth, and eyes. Strips of linen suffice for the arms and hands. These applications are left undisturbed for twelve hours, when fresh ones can be substituted. Suppuration is greatly shortened and the intensity diminished. While in parts without treatment the stage of desiccation appeared between the thirteenth and fifteenth day, on the face it set in by the ninth to eleventh day. There was no excessive suppuration upon the face. Upon the commencement of desiccation, the mask was usually removed. Ten to fourteen days after complete desiccation, the skin of the face was free from all traces of the disease; or, at the most, spots of pigment were visible that gradually disappeared.

21. *Oliver on Hydriodic Acid in Asthma.*—Oliver (*Boston Med. and Surg. Jour.*, March 4, 1880) recommends large doses of iodide of potassium in asthma, and, where patients cannot bear this remedy, he uses hydriodic acid. He commences with doses of twenty or thirty drops of the syrup of hydriodic acid well diluted with water, and taken about half an hour before meals; if taken after meals it may disturb the stomach, set up fermentation, and cause colic, acid stomach, and pain in the head. The dose is increased gradually, and a tablespoonful should not be exceeded.

22. *Dale on Nitrate of Uranium in Diabetes.*—Dale (*Boston Med. and Surg. Jour.*, Feb. 26, 1880) reports excellent results from the use of nitrate of uranium in doses of one or two grains three times a day in the treatment of diabetes.

23. *Beard on Bromides in Sea-Sickness.*—Beard (*Medical Gazette*, May 15, 1880) administers full doses, say thirty, sixty, or ninety grains of the bromide of sodium, three times a day, commencing three or four days before starting, and continuing it upon the voyage as long as may be necessary. The sodium bromide is preferable to the others, as less liable to derange the stomach; but the others may be used when this cannot readily be obtained. It is given preferably in cold or ice-cold water. It must be given to the extent of producing mild bromisa-

tion; anything short of this is useless. When the bromide has not been taken early, or when there is an idiosyncrasy which prevents the administration of that remedy, good results are often obtained from atropia in doses of from one-hundredth to one-twenty-fifth of a grain, hypodermically or by the mouth, repeated with sufficient frequency to produce great dryness of the mouth. In some cases, atropia in skilful hands is sufficient of itself without the bromides. The powdered citrate of caffeine, in doses of two or three grains, will generally relieve the sick-headache.

24. *Corilleau on Oxalic Acid in Diphtheria.*—Corilleau (*Boston Med. and Surg. Jour.*, Feb. 26, 1880) recommends a new remedy for diphtheria, namely, oxalic acid. He gives it thus: Oxalic acid, a gramme and one-half; syrup of orange, thirty grammes; infusion of green tea, one hundred and twenty grammes. A dessert-spoonful every three hours. Corilleau lost but one of the eighteen cases in which he adopted this treatment.

25. *Carpenter on Cosmoline in Phthisis.*—W. W. Carpenter (*Western Lancet*, May 1880) writes that fluid cosmoline contains all the virtues of petroleum without the disagreeable, pungent properties. He finds it more efficient and more readily tolerated than cod-liver oil, and believes it the best remedy yet found for phthisis.

26. *Vaudois and Montré on Crude Petroleum in Pulmonary Diseases.*—Dr. Vaudois, in *Le Progrès Médical*, and Dr. Montré, in *La Gazette des Hôpitaux*, state that under the name of 'oil of Gabian', crude petroleum has been administered in capsules of jujube paste to patients suffering from various pulmonary affections. It is said that these diseases are almost unknown among the inhabitants of 'oil regions'; and the workmen at the wells and others who handle the crude petroleum have circulated reports of this sort; and patients suffering with chronic bronchitis, asthma, and catarrhal bronchorrhœa, have employed the petroleum with success. Drs. Millard and Blache have tried the capsules prepared by M. Gardy, both in hospital and private practice in Paris, and report most satisfactory results. Careful experimentation has shown that the petroleum is eliminated by the pulmonary mucous membrane, which it modifies in its passage. Refined petroleum or kerosene oil does not possess the therapeutic properties which have been found in the crude oil.

27. *Clay on Chian Turpentine in the Treatment of Cancer.*—Since the publication of Mr. John Clay's statements regarding the influence of this drug in cancer, a notice of which is to be found in the LONDON MEDICAL RECORD, April 1880, p. 142, numerous observers have recorded their experience of the drug, and, in most cases, this has been negative as to its value. However, in the *Lancet*, June 1880, p. 934, Mr. Clay, in answer to several gentlemen, who had found no useful result from the employment of Chian turpentine, asserts that the known impurity of the drug used was quite sufficient to account for their want of success, and concludes: 'I may add that, in my hands, the most satisfactory results continue to be produced by the true remedy for cancer of various organs.' At page 958, Dr. Hickinbotham of Birmingham reports eight cases carefully treated with well-selected specimens of the drug in which no sign of improvement followed. At page 33, July 1880, Dr. Drury records a case in which the improvement of an apparently hopeless case is so far most gratifying, and beyond the shadow of a doubt. In the *British Medical Journal*,

June 1880, p. 968, Mr. Jackson reports the case of a woman who took thirty pills. Three weeks subsequently, she vomited a crude undigested block of Chian turpentine.

28. *Park on the Administration of Morphia Hypodermically in Large Doses.*—In the *Practitioner*, June 1880, p. 424, Mr. Park reports several cases illustrative of the advantages of using morphia very freely. In case 1, a strong healthy woman, aged 36, who was admitted with delirium tremens, he gradually injected three grains before producing any effect. After a good sound sleep she awoke, well. Two days subsequently she became again noisy and restless; he therefore injected two grains without producing the slightest effect. For two days she continued unmanageable, when five grains of acetate of morphia were injected deeply, under the subcutaneous fat; half an hour afterwards she dropped asleep, and slept till morning. In another case, a man suffering from sciatica, three-and-a-half grains were necessary before relief could be obtained. Sleep was never produced as a direct result of the injection, so far as could be noted. Occasionally, large doses appeared to act as purgatives; certainly it cannot be averred that the constipation increased either by large or small doses. In a case of granular Bright's disease, where large doses were frequently given, and, at times, continuously, for the relief of insomnia and orthopnoea, not only was the palliation greater than expected, but the patient's life was greatly prolonged. Several other cases are quoted at some length, showing how beneficial large doses often proved. Mr. Park's conclusion is that the sedative, anodyne, and hypnotic effect of morphia do not go together. Hypodermically administered, and even in large and toxic doses, the hypnotic result may not be obtained. In certain cases of mania, the tolerance is very great. In practice it often happens that three minutes to half an hour elapse before the full effect of an injection becomes manifest, and often ten minutes elapse before the patient himself is conscious of any effect. It is remarkable that in no one of the cases in which Mr. Park used the very large doses recorded, did any of the ordinary phenomena of narcosis ensue—a very different result to that which would necessarily follow administration of like doses by the mouth or rectum.

29. *Roberts and others on the Eucalyptus.*—Several letters have appeared in the *British Medical Journal*, June 1880, pp. 866, 949, 993, relative to the cultivation and value of this tree. According to Mr. Roberts, it is most difficult to acclimatise the plants, as they generally die if exposed to a moderate degree of cold before they are several years of age. The therapeutical value of the tree is called in question by most of the writers; one, who dates from Rome (p. 994), saying: 'One word as to the value of the eucalyptus as a medicine. I have used it frequently, and I can only say that that man trifles with the life of his patient who treats, with preparations of eucalyptus only, any severe case of pernicious malarial fever in the climate in which that fever has been contracted.'

30. *Hunt on Chloride of Calcium in Phthisis.*—In the *LONDON MEDICAL RECORD*, p. 273, will be found a note by Dr. Sawyer relative to the great value he attaches to the use of chloride of calcium in phthisis. Confirmatory evidence is also given by other observers. In the *British Medical Journal*, July 1880, p. 15, Mr. Hunt reports five cases greatly

improved under its use; a sixth case, one of laryngeal phthisis, became worse under treatment.

31. *Leech on Citrate of Caffein as a Diuretic.*—An interesting series of articles, in the April, June, and July numbers of the *Practitioner*, by Dr. D. J. Leech, convey an accurate idea of the value of this drug, as proved by a large number of carefully-noted observations. Twenty cases are fully recorded, to give an abstract of which is, of course, undesirable; but the general conclusion at which Dr. Leech arrives is, that caffein will often produce diuresis, when other potent drugs have failed, although, at times, other drugs succeed when caffein has failed. The diuretic effects of caffein seem to depend partly on the influence it exerts over the general circulation, partly on its specific action on the kidneys. It has little influence on the vagus, but it directly stimulates the heart, and increases blood-pressure; the influence on the blood-pressure depends upon the dose, and hence the variety of opinions held upon this subject. A large dose may lessen the pressure, and thus tend to reduce, rather than increase, the flow of urine. Too small a dose equally fails in promoting diuresis, since it does not sufficiently stimulate the circulation. In one case nine grains daily failed, while twenty acted powerfully; and, in another, the result was exactly the reverse. The condition of the heart walls has important bearings upon the action of caffein. (Dr. Berkart, in the *British Medical Journal*, July 1880, p. 80, utters a warning when using caffein, on account of the peculiar rigidity it causes in the cardiac muscles.) The success of caffein, as a diuretic, is interfered with by two causes. One is the readiness with which the system become accustomed to its use, and then, like opium, it ceases to have its accustomed effects; the other is the variable action which caffein produces, owing to idiosyncrasy. Caffein may be given in coffee; it is a tonic and stimulant diuretic, and quick in its action. It sometimes causes nausea and headache; palpitations are at times induced. It will occasionally succeed when digitalis fails. In ascites and anasarca it is well worthy of further trial; in cardiac dropsy, its utility is placed beyond all doubt.

32. *Berkart on Pilocarpine in Asthma.*—In the *British Medical Journal*, June 1880, pp. 917, 960, and July 1880, p. 79, Dr. Berkart brings forward a series of cases proving, satisfactorily, the great value of the use of pilocarpine in treating this disease. The powerful revolution which pilocarpine produces in the distribution of the blood must necessarily have a very beneficial influence in some forms of asthma; for, by attracting a large volume of blood to the skin and to the salivary glands, and by diminishing its volume through the copious perspiration and salivation, the congested internal organs are relieved in a corresponding degree. An adequate conception of the pathological changes in the lungs, indicating the use of pilocarpine, may be formed by observing an analogous process in the lower extremities. In connection with varicosities, the leg at one time increases in circumference, the pale and dry tissues presenting a peculiar inelastic and spongy feel; at another, the enlarged leg has a dark brown colour, and its tissues are apparently indurated; at another, in these circumstances, an ulcer develops itself. *Mutatis mutandis*, the same takes place in the lungs; only the interstitial changes in the lungs—in origin, in nature, and in progress precisely similar to those observed in the legs—are not amenable to diagnosis, unless they perceptibly diminish the volume of the

air, or interfere with its entrance or exit to and from the lungs by implicating the bronchi. Here then, pilocarpine has the same effect as the bandages in varicosities of the extremities. Within a few minutes, the application of the drug is followed not merely by amelioration of the subjective symptoms, but by a corresponding improvement of the physical signs. Of course a remedy that so powerfully exalts one function necessarily depresses another, and therefore its use requires some caution. But with a little attention the remedy can be safely and successfully managed. He has found the alkaloid preferable to the plant, because: 1. It acts more rapidly; 2. It does not produce strangury; and 3. The dose can be more accurately determined. Those whose cardiac muscles are, from whatever cause, in a state of fatty degeneration, may, under the influence of pilocarpin, present the most alarming symptoms. However, the cause for alarm soon spontaneously subsides, the heart regaining its previous force; but if it lingered to do so, a subcutaneous injection of 1-128th or 1-60th grain of atropin immediately restores the balance. Pilocarpin is more suitable in the treatment of younger asthmatics, but is by no means contraindicated in patients of more advanced years. The dose should not exceed one-third of a grain. Dr. Berkart has never used more than ten drops of a two per cent. solution. During the action of the drug, the patient should preserve the recumbent posture—which the almost immediate relief obtained will enable him to do—and he should be carefully watched until the effects pass off. It is desirable to have a solution of atropin always at hand, in case of need. It is well, also, not to use pilocarpin soon after the patient's meals; if the dyspnoeal seizure occur under these circumstances, there are, it is needless to say, other remedies more suitable. At 3.7 P.M., ten drops of a two per cent. solution of pilocarpin were injected into the arm of a man, aged 63, suffering from great dyspnoea. At 3.10, perspiration commenced on the forehead; 3.12, salivation commenced; 3.13, breathing easier; 3.30, still easier, respiration quite free, inspiration and expiration normal. From that time he continued well, while under observation, for five weeks. Four other cases are recorded, in all of which the asthmatic paroxysms were speedily, within a few minutes, relieved by the pilocarpin: and that relief was due, not merely to the suppression of the painful perception of the dyspnoea, but to the removal, as far as practicable, of its immediate and remote causes. Moreover, the improvement lasted long after the effects of the drug had passed away, and in some instances it was almost complete. It might be supposed that the occasional unpleasant cardiac symptoms and nausea would prove a drawback, but this is not so; ordinary precautions will prevent their occurrence, and atropin will at once counteract them, should they arrive. Klebs uses only the one-sixth of a grain. Foremost among the causes of very urgent attacks of asthma, attacks that must be at once relieved, is œdema of the lungs, occurring in the obese and cachectic, and in those suffering from valvular disease of the heart, from gout, and from renal disease (uramic asthma). It is due, invariably, to failure of the left ventricle, while the right is still able to act, and develops itself either in the midst of apparent health, or as a rapid exacerbation of an existing cardiac derangement. Morphia, injected hypodermically, is the remedy for this condition, one-sixth of a grain acting like a charm. As soon as it is absorbed (and it requires a longer time than in

health), the painful oppression of the chest and the hacking cough disappear; the noisy and frequent respiration becomes quiet and slower; the cyanosis of the face and lips gives way to a flush; and the cold clammy skin becomes warm and moist; the contracted artery widens and fills; the heart regains its previous force and rhythm, and with them return its impulse, its sounds, and its murmurs, while the pulmonary symptoms subside more or less completely. Subsequently, there is neither languor nor drowsiness, even in those who are, at other times, very susceptible to the influence of the drug. Morphia merely counteracts the effects of the abnormal quantity of carbonic acid in the blood, and with the attainment of that object its influence is exhausted. The administration of morphia is far more effectual by the skin than by the mouth in these cases; if, however, opium has to be given by the mouth, it must be in large doses, and combined with stimulants, to promote its absorption. Marvellous as are the effects, in properly selected cases, of thus using morphia, it must ever be borne in mind that constant repetition, like constant use of nitre-paper, does more harm than good. It is to be used in emergencies to tide over distressing symptoms, and having served this end, other well known remedial means are to be employed to prevent a recurrence of those symptoms that called for its use. Caffein, in four-grain doses, in coffee, produces copious diuresis and thus lessens the volume of the blood; but, on account of the peculiar rigidity of the heart-muscles which it is apt to produce, the remedy must be cautiously employed. Frequently meteorismus is a cause of distressing dyspnoea; if emetics be contraindicated, a few five-grain doses of chloral-hydrate, or two drachms of creosote mixture, will quickly relieve the most urgent symptoms. Apomorphia, given subcutaneously, in doses of one-tenth of a grain, acts well as an emetic. Ipecacuanha affords relief, not by causing vomiting alone, but by producing serous exudation, and thus loosening plugs of mucus that obstruct the bronchi. A similar effect is produced by the fumes of nitre-paper, containing, as they do, ammonia with picolin, pyridin, lutidin, and collidin. The same fumes are found in stramonium, tobacco, and other 'smoking mixtures'. Dr. Sée, and others, found great value in inhalation of iodide of ethyl. Quebracho has lately been much extolled, as relieving the dyspnoea.

33. *How to Administer Chloroform.*—In the *British Medical Journal*, July 1880, p. 69, 'Anglo-Scot' writes thus:—'It must have occurred to readers of the reports of the deaths from chloroform, that one thickness of lint and only a small quantity of chloroform are required to send a man in search of a "fatty heart", which, to do him justice, he generally finds to the jury's satisfaction. Men should try the Scotch method, and use four thicknesses of towel, and let the heart and pulse alone, both before and at the time of administration, and regard only the breathing and the colour of the face, by looping it under the chin of the patient, when it stands away at right angles to the face. By this method I have given it hundreds of times, under all conditions of heart and lung disease; in extreme old age—one a case of 97 years, in extreme youth, in pregnancy at term, to a man whose normal pulse was 28 per minute in health (?), and without the shadow of an accident. There is no condition whatever under which I have as yet hesitated to give it. If people will go on filtering pure heavy chloroform vapour into a patient's lungs through one thickness of lint,

after having depressed him by auscultation and pulse-feeling, then they will always require that miserable subterfuge — "fatty heart", or the large flabby heart. I have never put a patient under chloroform in less than ten minutes yet, oftener it is nearer half-an-hour before they go off; but with the "lint filter" the pure vapour does it in less than five minutes very often, and with what percentage of results our medical and even lay press bears only too solemn a testimony.' [Dr. Simpson, in the *Edinburgh Medical Journal* for Dec. 1861, advocated the use of one fold, a plan adopted by Dr. Moir. Dr. Anstie, *Medical Times and Gazette*, July 1862, p. 19, strongly reprobated the use of napkin or rag.—*Rep.*]

RICHARD NEALE, M.D.

34. *Beach on Styrene, a New Antiseptic.*—Dr. Beach (*Boston Medical and Surgical Journal*, March 11, 1880) recently exhibited before the Boston Society for Medical Observation a new antiseptic derived from storax and balsam of Peru. It is obtained from styracin (cinnyl-cinnamate), by heating with caustic alkalis. It is itself cinnyl-hydrate (C^9H^9HO). It crystallises in soft silky needles, having a sweet taste and odour of hyacinths, melting at $33^\circ F.$, and volatilising without decomposition at a higher temperature. It is moderately soluble in water, one part in ten or twelve, and freely in alcohol and ether. Dr. Beach had tested the efficiency of the antiseptic by applying it in saturated aqueous solution to a foul ulcerated surface, with the effect of completely deodorising it. The same surface was dressed with sheet-lint saturated with an emulsion of the styrene and olive-oil, one to twelve, covered with thin gutta percha, and the edges of the gutta percha fastened to the skin with collodion. At the end of five days the dressing was removed, and the accumulated secretions were found sweet, having only the agreeable odour of the styrene. The pure styrene is slightly irritating to a raw surface, causing a burning sensation, but, diluted to one part in six, either of oil or water, it forms a non-irritating emulsion. In either form it is a perfect deodoriser of a foul wound, and does not interfere with the process of cicatrization. One part in twelve of oil or water is sufficiently strong to be effective. In a comparative experiment, it was found that a specimen of urine to which carbolic acid had been added (1 to 150), become offensive on the sixth day, developing bacteria; a similar specimen, to which a like quantity of styrene was added, was in good condition at the end of fifty-nine days, free from any urinous or offensive odour, and containing no fungoid forms. A third specimen, treated with thymol, in the same proportion, was likewise perfectly preserved.

MEDICINE.

RECENT PAPERS.

1. GOTTSTEIN, J. — On the Symptoms in Menière's Disease. (*Zeitschrift für Ohrenheilkunde*, Band ix.)
2. SAVARD. — On Primary Carcinomatous Hæmorrhagic Pleuritis. (*Progrès Médical*, No. 31.)
3. SAUNDBY, R. — Certain Points connected with Albuminuria. (*British Medical Journal*, June 1880.)
4. DOYLE, J. P. — A Source of Typhoid Fever. (*British Medical Journal*, July 1880.)
5. HAYMAN, HENRY. — The Sleeping Girl of Turville. (*Lancet*, June 12, 1880.)
6. POWELL, R. D., and LYELL, R. W. — Paracentesis of a Basic Cavity of the Lung. (*British Medical Journal*, June 1880.)

1. *Gottstein on the Symptoms in Menière's Disease.*—J. Gottstein (*Zeitschrift für Ohrenheilkunde*, Band ix) arranges the forms of disease connected with deafness and disturbances of equilibrium (Menière's disease) in two groups. 1. Those in which the affected persons, mostly children, present symptoms which may be called meningeal irritation, are ill for a shorter or longer time, and after complete recovery retain the deafness and the staggering walk; 2. Those in which deafness and giddiness suddenly appear without disturbance of the general health. The cases of the first group are referred by the author to cerebro-spinal meningitis, contrary to the view of Voltolini, who includes them under the name of 'otitis labyrinthica'. This view is supported by the circumstance that, among 254 patients with ear-disease, who came under treatment from March to October 1879, twenty-five cases were found with the so-called otitis labyrinthica. It almost seemed as if there were an epidemic of this affection. Six cases must be excepted, the beginning of which dated a year and more back. Among the remaining nineteen cases there were again six, in which, partly with certainty and partly with more or less probability, meningitis was found to be the starting point of the symptoms of Menière's disease. In the remaining thirteen cases, there was fever with violent head-ache, and in two cases only was vomiting absent at the beginning of the disease; in nine of them, there was more or less profound benumbing of the sensorium; in three cases only, fever, head-ache, and vomiting, were the sole symptoms which preceded the ear-disease. All the patients, except one, belonged to the classes who live on poor food, and their ages varied from two to sixteen years. With regard to this phenomenon, and to the circumstance that an epidemic of cerebro-spinal meningitis prevailed (in Silesia) at the time when the author observed these cases, Gottstein does not hesitate to connect them with this epidemic. Of what nature the morbid process is which affects the organ of hearing in this malady, he has not been able to determine, in consequence of absence of anatomical and pathological researches. Of cases of the second group, which, on account of the suddenness of the onset, Gottstein designates an apoplectic form of Menière's disease, the author has seen three only. In all these, the affection was of a secondary nature. In the first case, the primary malady was tabes dorsalis; in the other two, leucæmia. The author desires by his contribution to give a stimulus to the decision of the question, whether the genuine disease of the acoustic nerve in its course and in its termination occurs really so frequently as it has been hitherto assumed.

2. *Savard on Primary Carcinomatous Hæmorrhagic Pleuritis.*—Dr. Savard (*Progrès Méd.*, 1879, No. 31) relates the case of a patient, aged 49, who was received into the hospital on the 7th of January. He stated that, twenty days previously, he had a sudden rigor, with cough, difficulty of breathing, and acute pain in the left side, which compelled him to leave off work; it returned in the following days, although somewhat milder. His appetite was nearly lost; and he had bloody expectoration after the lapse of eight days. The left side of the chest was enlarged and immovable; from apex to base there was a dull percussion-sound, whilst the right side was everywhere sonorous. Blowing breathing was heard on the left side; the pectoral fremitus appeared very weakened, the heart was displaced towards the right. There was also slight cedema in the left chest, although the patient lay mostly on the right side. On

account of severe dyspnoea, punctures were made on the 9th, 10th, and 13th, by which 1,000, 1,200, and 1,500 grammes of fluid, containing much blood, were evacuated. There was almost no change in the physical state after the punctures; the subjective symptoms were indeed improved for a short time, but the gain was only temporary. The patient sank visibly, soon began to be delirious, and died on January 22nd. At the dissection, an effusion, with much blood, was found in the left pleural cavity. The pleura itself was covered with a hard membrane, two centimètres thick; the lungs were compressed to the size of a fist, and pressed against the vertebral column, and section showed them to be permeated with hard masses, apparently of a cancerous nature. On microscopic examination, the dense deposits on the pleura were seen to consist of organised connective tissue, fenestrated with numerous cavities lined with epithelial cells, so that at first sight the disease appeared to be alveolar cancer. The cells lining the wall were not everywhere cylindrical, but showed in some of the spaces a cubic appearance. The case was therefore essentially one of epithelioma (épithéliome métatypique, Malassez), the original source of which cannot be ascertained exactly. In the only case analogous to the present one, described by Malassez, a cancer had passed from the lungs into the pleura. In the present case, however, there was found in the lungs a less characteristic state, so that the possibility of the origin of the cancer in the pleura cannot be excluded. If this cancer belonged primarily or secondarily to the pleura, the clinical phenomena were highly characteristic; viz., the abundant hæmorrhagic effusion, its speedy return after evacuation, the œdema of the thoracic wall, the bloody expectoration, and especially the slight change in the physical signs after puncture. Nothing but the acute onset of the chest-symptoms could lead to an error in diagnosis.

3. *Saundby on Certain Points Connected with Albuminuria.*—Dr. Saundby, in an able paper in the *British Medical Journal*, June 1880, p. 841, reviews the whole subject of albuminuria, that is, 'the presence in the urine of a body coagulated by heat or precipitated by neutralisation'. There being but two albuminous substances likely to be met with, giving the above reactions, viz., serum-albumen and paraglobulin, Dr. Saundby endeavours to decide whether paraglobulin is ever found alone in the urine, although it is constantly present with serum-albumen. A series of carefully arranged experiments and observations appear to warrant the following conclusions. 1. The body present in urine which is coagulated by heat or precipitated by neutralisation is almost invariably serum-albumen, rarely paraglobulin. 2. The presence of paraglobulin alone in the urine is still somewhat obscure, and has not been correlated with any clinical group of cases. 3. The maximum amount of albumen excreted by the kidneys is during the after-breakfast period, and this relation is maintained in spite of the more albuminous character of the midday meal. 4. While there can be no doubt that nitrogenous diet increases albuminuria, this is not due to the absorption of undigested albumen, but to the increase of nitrogenous excreta, and the consequent stimulus to the usual functions.

4. *Doyle on a Source of Typhoid Fever.*—Mr. J. P. Doyle, in the *British Medical Journal*, July 1880, p. 114, suggests the possibility of typhoid fever being propagated by some special kind of uterine or vaginal secretion. This idea has arisen from Mr.

Doyle having noticed cases of typhoid, occurring in houses without any apparent cause, in which those about the patients, prior to the outbreak of the disease, had leucorrhœal discharges, and none of them took the fever.

5. *Hayman on the Sleeping Girl of Turville.*—In the *Lancet*, June 1880, p. 923, Mr. Hayman thus reports on this singular case. Between nine and ten years ago I was called to attend Ellen Sadler for an ordinary case of illness, from which she did not soon rally. The parents being very poor, the vicar asked me to allow her to be sent to the Reading Hospital, where she seemed to become gradually worse, and after eighteen weeks was discharged as incurable. She was not in a cataleptic state immediately, but soon after her return home she was seized with a fit, and after the paroxysm had subsided she turned round on her side, with her hand under her face. The mother assured me that she had never (of herself) changed from that position, and I am bound to say that I have frequently gone upstairs without a moment's warning and never found her otherwise. The fit occurred on March 17th, 1871. The girl was twenty-one years of age on the 15th of May last. The case has been visited by numerous medical men from all parts, and, I believe, without any exception, with more or less scepticism. I was often told by the deceased mother that the reason she objected to her child being handled or touched much, was 'because the doctors used to have pins and needles secreted to test her power of feeling'. At the early stage of her illness I asked to apply galvanism, but this was strenuously opposed by her parents. Every effort has been made to discover the deception (if any), but without success. The late Home Secretary was applied to, and he communicated with the magistrate of the district, but as the girl was not represented as a 'fasting girl', and the parents never asked for any donation when showing her (although it is supposed, in the summer, as much as £2 per week has been received by them), there was no room for legal interference. When I last communicated with the deceased mother on the subject, she assured me that nothing had passed the bowels of the patient for five years, but about every fourth day a somewhat large amount would pass from the bladder.—In reference to this case, Mr. John Gay, at page 31 in the July number of the *Lancet*, details the means by which he cured a similar case that was admitted into the Royal Free Hospital. A grain of tartar emetic was administered, with the result of rousing the patient to the exigencies of the drug, from which she relapsed into her previous state; after twenty-four hours a second dose was administered, with like unpleasant results, and, while conscious, the nurse was ordered to give a third dose as soon as required. This was too much, and she once and for all refused to submit. The remedy had done its work; the patient took food, got out of bed, began to move about the wards, and the terror of the third dose converted the 'sleeping beauty' into an useful handmaiden in her mother's cottage, where, a few years subsequently, Mr. Gay found her a robust and intelligent young woman, still bearing a keen recollection of the emetics, not unmixed with gratitude. [A number of very interesting cases of this condition may be found scattered through the journals. In the *Medical Times and Gazette*, July 1873, p. 61, Dr. W. Ogle published a communication from Dr. McCarthy, giving a report of a remarkable illness called the 'sleeping sickness' attacking the natives of the island of Buluma. In every case there is to be found a

chronic thickening of the deep cervical glands, excision of which, by the native doctors, invariably cures the disease. Dr. McCarthy expresses the belief that the pressure exerted by these glands on the vessels nourishing the brain, is the cause of the prolonged sleepiness. Possibly, in the cases recorded by Dr. Hayman and Mr. Gay, enlarged cervical glands may have played a part. Men and women that have slept away eighteen to twenty years of their lives, as well as many of shorter duration, are noted in the *Medical Digest*, section 1361:5.—*Rep.*]

6. *Powell and Lyell on Paracentesis of a Basic Cavity of the Lung.*—A report of this case by Dr. Douglas Powell and Mr. R.W. Lyell, read before the Royal Medical and Chirurgical Society, is given in the *British Medical Journal*, June 1880, p. 926. A man, aged 49, of previous good health, but intemperate habits, had pleuro-pneumonia and fetid expectoration in February, having suffered from bronchitis in the previous December. He improved after a time; but, in July, he relapsed, and in August was admitted into the Middlesex Hospital. A cavity was diagnosed in the right lower lobe. The expectoration was extremely fetid, which, with the cough, immediately disappeared, after that the cavity was evacuated by trocar and drainage tube. In October there was a return of fetid breath, but no fetid discharge through the drainage tube. The patient lost ground, and died of pleuro-pneumonia fifty days after the operation. In commenting upon this case, Dr. J. C. Thorowgood, in the *British Medical Journal*, July 1880, p. 69, suggests that previous to tapping basic cavities in the lung, it would be well to invert the patient, as was practised with success in a boy aged 13 years.

RICHARD NEALE, M.D.

SURGERY.

RECENT PAPERS.

1. BRAMWELL, JAMES PATON.—On Nerve-Stretching in Sciatica. (*British Medical Journal*, June 1880, p. 920.)

2. NAPIER, W. D., and others.—On Extraction of Teeth and putting them back in the Jaw. (*Lancet*, 1880.)

3. DAVY, RICHARD.—On the Application of Plaster. Felt, or Glue Jacket by Hammock Suspension. (*British Medical Journal*.)

4. MARCY.—The Development of the Osseous Callus. (*Ibid.*, June 4.)

5. CAMPBELL.—Radical Cure of Inflammation by Ligature of the Vessels of Supply. (*Ibid.*)

6. DAWSON.—A Modified Operation for Cystocele. (*Ibid.*)

7. PANCOAST.—White Swelling and its Treatment by Extension. (*New York Medical Record*, June 2.)

8. VOLKMANN.—On Perforating Tuberculous of the Root of the Skull. (*Centralblatt für Chirurgie*, 1880, No. 1.)

9. FITZGERALD, S. N.—Removal of Hydated Tumour connected with the Omentum and Liver: Abdominal Section: Recovery. (*Australian Medical Journal*, May 15, 1880.)

10. RUHLMANN.—Large Enchondroma of the Right Scapula; Exurpation. (*Gazette Médicale de Strasbourg*, 1879.)

11. LINDEMANN.—Treatment of Carbuncle of the Upper Lip. (*Archiv für Klin. Chirurgie*, Band xxiii.)

12. WOLFF, J.—Treatment of Cleft Palate.

1. *Bramwell on Nerve-Stretching in Sciatica.*—In the *British Medical Journal*, June 1880, p. 920,

Dr. J. P. Bramwell contributes the history of five cases of sciatica thus treated. In one case, a young man had the operation performed, with only transitory relief, previous to seeing Dr. Bramwell, who determined, after failure of all other treatment, to cut down again upon the sciatic nerve and stretch it. This was done; adhesions between the nerve and its sheath, the result of the previous operation, were broken down and the wound closed, after the nerve had been thoroughly stretched. The cure was perfect. Doubtless, the cause of failure after the first attempt, was due to the adhesions contracted, an event readily avoided by exercising the leg during the healing of the wound. The other cases were equally successful.

2. *Napier and others on Extraction of Teeth, and putting them back in the Jaw.*—In the *Lancet*, May 1880, p. 847, the editor invited opinions upon this subject. Among the numerous respondents in subsequent numbers, some of whom assert the impossibility of such a thing occurring, but most of whom bring forward cases, more or less extraordinary, in support of the fact that teeth, so treated, last many years; Mr. Donald Napier contributes an interesting paper, in June 1880, p. 939. In this communication Mr. Napier does not hesitate to assert his own conviction, that a tooth cannot be replaced after extraction, under the most favourable conditions, without the sequel of periostitis. To insert a foreign tooth in the alveolar cavity has, to Mr. Napier, never appeared worthy of serious consideration, seeing that no two sockets are similar in conformation. Dr. Reid of Tenby, p. 939, relates a case where a lady, skating, fell, and knocked out a prominent incisor. Her husband picked up the tooth, and, wiping it, placed it in his pocket. Ten minutes afterwards he was strongly advised to replace it, and did so with difficulty. At the end of six months it appeared firmly rooted and of natural colour. Two somewhat similar cases are reported at p. 982. Mr. Duke of Folkestone, July 1880, p. 39, relates a case of a lady whose painful bicuspid he removed and replaced, the tooth remaining useful for two years, when it was again extracted and replaced, and did good service for another two years, when, for a third time, it was extracted, but never became again sufficiently firm for use. Not only has Mr. Duke treated others in a similar way, but he himself also has undergone the same treatment, a tooth too painful to support a gold collar being extracted and reinserted, and remaining still sufficiently attached, at the end of sixteen months, to support the frame of the artificial teeth.

3. *Davy on the Application of Plaster, Felt, or Glue Jackets, by Hammock Suspension.*—In the *British Medical Journal*, June 1880, Mr. Richard Davy, with his usual ingenuity, has suggested an admirable method of applying the plaster or other jackets. The patient is fitted with a tightly fitting vest, but of thicker material, and far more open work than those usually worn. A piece of strong canvas, longer than the patient's height, is then procured; the arms are passed through two slips in the canvas at suitable points, so that, in the first instance, a loose canvas long apron, with ends, one turned downwards over the chest, and the other on the floor, fits around the front and sides of the body. The canvas hammock is next slung, at two fixed points, by attaching its two folded ends with two stout bandages; and the surgeon should test its bearing power by the weight of his own body. The patient is placed prone in the canvas, as represented

by an accompanying diagram. An aperture is made over the patient's lips, to allow easy respiration and speech. When he is thus placed, the surgeon leisurely applies the plaster-of-Paris, or other fixing material, over and including the canvas, which has, of course, been accurately cut to shape the dorsal contour. The free current of air around, and, if necessary, suspension near a fire, facilitates the drying of the material, while the patient is enjoying a comfortable swing in the hammock, and not unfrequently falls asleep. When thoroughly dry, the patient and hammock combined are let down; the superfluous ends are neatly cut away, so that, without irreverence, it may be said such patients take up their beds and walk. Mr. Davy speaks highly of hair, mixed with the plaster. The portability and economy of Mr. Davy's mode of applying the plaster jacket leaves nothing to be desired.

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4. *Marcy on the Development of the Osseous Callus.*—Dr. H. C. Marcy read a paper at the last meeting of the American Medical Association (*New York Medical Record*, June 4th) on the development of the osseous callus in the different fractures of the bones of men and animals, which was illustrated by microphotographs. Various specimens were also demonstrated. The writer summed up the different factors which entered into the modes of repair in fractures, as follows. The germinal matter which was effused in the vicinity of a fracture must be placed under certain definite conditions to secure therefrom an ossific development. In periosteal transplantation, Ollier had already shown that the periosteum must furnish an exudation *sui generis*, and that this occurred only under irritation. The process of consolidation was not uniform, but varied with various influencing factors. Strictly speaking, there was no primary union in bone, similar to that of other tissues; but, by careful and complete adaptation of fractured surfaces, the various factors of repair were placed in such a relation that they might most readily combine to aid in the repair and produce a more certain and satisfactory result.

5. *Campbell on the Radical Cure of Inflammation by Ligation of the Vessels of Supply.*—Dr. H. F. Campbell, at the recent meeting of the American Medical Association (*New York Medical Record*, June 4th), observed that increased vascularity was the essential factor of inflammation. Heat, redness, pain, and swelling were usually mentioned as such, but increased blood-supply was certainly the principal one of these. He related his experience with cases involving inflammatory processes, which had been treated by ligation of the supplying vessels. Seven cases affecting the lower extremity, and eight involving the arm, had been thus treated. The results had invariably been satisfactory, sometimes even unusually and surprisingly so. Occasionally, as in a few cases affecting the arm, collateral circulation became so rapidly established that the inflammation was soon renewed. Ligation to prevent inflammation, however, was dangerous and unadvisable. He only recommended ligation for already existing inflammatory processes, with a view to effectually stopping their progress.

6. *Dawson on a Modified Operation for Cystocele.*—Dr. Dawson (American Medical Association, *New York Medical Record*, June 4th) said that in aggravated cases of cystocele, the writer said, three things were necessary: 1. The restoration of the uterus to its normal position; 2. The restoration of the bladder; and 3. The repair of the perinaum. Having spoken of the operations of others, he

claimed for the one devised by himself the advantages of more certainty of cure and less liability to abscess. It was somewhat similar to the operation of Schroeder, but had been performed (1867) before his attention had been called to the latter. The denudation was similar to that of Schroeder, but the procedure differed from his in the folding of the redundant anterior vaginal wall into the bladder. He described his plan of operating, and gave the history of five cases. The first case was one of complete prolapsus (the uterus measuring, from the external os to the fundus, five and a half inches), with rupture of the perinaum extending to the sphincter ani. The recto-vaginal and vesico-vaginal walls were completely invaginated, and a sound passed into the bladder showed that organ wholly involved in the prolapse, and occupying the anterior aspect of the tumour. The first procedure undertaken was to diminish the calibre of the vagina by narrowing the anterior wall. The anterior vaginal wall was denuded of mucous membrane, by means of Emmet's scissors, to the extent of four inches in length by three inches in breadth, the denuded surface resembling an oval in outline. Eight silver sutures were then passed successively, by means of a needle armed with silk, through the vesico-vaginal tissue immediately below the denuded surface, entering and emerging about one-quarter of an inch from the edges, and introduced first at the upper portion of the wound. After all the sutures were passed, with a stiff curved sound, the denuded surface was folded into the bladder, traction at the same time being firmly made upon all the silver wires by means of their ends held in the left hand. This procedure doubled and folded the sutures within the tissues in such a manner as to cause them to act as splints in retaining the resulting fold of the vagina in position, and the denuded surfaces in apposition, even when the sound was withdrawn and before the sutures were twisted. Each suture was then carefully twisted, and perfect apposition of the raw surfaces accomplished. The whole mass was then carefully returned into position. Nine days afterwards, the vaginal sutures were removed, and complete union was found to have occurred. The perinaum was then restored, and the case resulted in a perfect cure. The other four cases were of similar character, and in all of them the same excellent results were obtained. In the last one mentioned, however, the operation for the restoration of the perinaum was performed the same day as that for the cure of the procidentia and cystocele. The result was that a short time afterwards the perinaum gave way, in consequence of violent exertion made by the patient, and the cystocele also returned to a slight extent. But subsequently both operations were repeated at an interval of nine days between the two, and the patient had no further trouble. These five cases were selected as the worst of the eight upon which he had operated, and a sufficient time had now elapsed since they were all performed to demonstrate the efficiency of the method employed.

7. *Pancoast on White Swelling and its Treatment by Extension.*—Dr. Pancoast, at the recent meeting of the American Medical Association (*New York Medical Record*, June 2nd), read a paper on white swelling, in regard to the use of extension in treatment. He emphasised the fact that ligaments would not stretch normally; but when altered by inflammation they readily gave way. Injected specimens of joints were then exhibited. These showed the absence of vascular filling in the cartilaginous por-

tions of the articulations. Cartilage, he said, was nourished by the surrounding and adjoining tissues, not by a vascular supply. An experiment was performed, which illustrated effusion taking place into the hip-joint, and its consequent action. The great principle in the treatment of articular affections was rest, and not extension. The latter often had bad effects from irritation of the synovial membranes, which were the chief seat of disease. In the stage of spastic muscular contraction of such cases, tenotomy and myotomy were recommended as tending to relieve the spasm. In the advanced stages, excision alone could be relied upon. Extension would only aggravate the disease in those stages, because the synovial structures would be additionally irritated by the extending force. The hot iron was recommended as the most efficient revulsive in articular affections. Rest, he said, must be enforced, and suitable antiphlogistic treatment, combined with this, was far superior to any apparatus for permanent extension.—Dr. Madden stated that a much thickened synovial membrane frequently simulated articular effusion. His mode of enforcing prolonged rest was described. This, like Dr. Pancoast, he considered the most essential factor in the treatment of articular lesions.—Dr. Pancoast gave a description of a French method of employing cotton-wadding for articular bandaging, which, he said, adapted itself admirably to the natural configuration of the limb.—Dr. Madden said that, in his 240 cases of exploratory articular punctures, he had purposely abstained from using antiseptic precautions, and had never found the slightest symptom of inflammatory reaction.

8. *Volkmann on Perforating Tuberculosis of the Roof of the Skull*.—R. Volkmann (*Centralblatt für Chirurgie*, 1880, No. 1) has had the opportunity of observing about twelve almost typical cases of this comparatively rare affection. It consists in a process of caseation leading to melting and necrosis of the cranial bones, together with purulent separation of the dura mater, as well as of the external periosteum, which, however, always affects only one spot of the roof of the skull. A tolerably large abscess is formed externally, mostly with ill-defined symptoms; its internal surface, after spontaneous or artificial evacuation of the cheesy pus, was lined with numerous granulations containing caseous miliary tubercles, the bony tissue being also of cheesy consistence at a spot as large as a pea, often in the form of a small sequestrum, of the entire thickness of the cranium. If left alone, the diseased parts heal extremely slowly, the caseous change may progress, and in many cases pus is accumulated between the cranium and dura mater. The author has, therefore, in four cases, after freely laying open and evacuating the external abscess under antiseptic precautions, trephined the affected bone, and scraped out the dura mater as far as it was fungous. The result has been very favourable with regard to the course of the wound. The true healing, however, was very protracted in half of the cases thus treated. The cranial integument, which had been detached by the abscess, always united directly.

9. *Fitzgerald on Removal of Hydatid Tumour Connected with the Omentum and Liver: Abdominal Section*.—This case is reported in the *Australian Medical Journal*, May 15th, by Mr. T. N. Fitzgerald, surgeon to the Melbourne Hospital. M. O'R., aged 47, widow, was admitted into the Melbourne Hospital on January 8th, 1880. She stated that since her second confinement, twenty years ago, she had been troubled with a 'lump' in the right side, which

appeared suddenly, and which had of late been growing very large. She had grown thinner latterly. Dysuria had been very troublesome for some time. She was a delicate-looking woman. Occupying the whole of the lower part of the abdomen was a large pyramidal tumour, elastic and freely movable, except anteriorly, where it was diagnosed as adherent to the abdominal wall; the superficial abdominal veins over the surface of the tumour were tortuous and dilated; an indistinct succussion wave was felt on palpation. The measurements were: 1. Girth at umbilicus, 32½ inches; 2. From ensiform cartilage to umbilicus, 6½ inches; 3. From umbilicus to symphysis pubis, 10½ inches; 4. From right anterior superior spine of ilium to umbilicus, 8 inches; 5. From left anterior superior spine of ilium to umbilicus, 8 inches. On Jan. 18th, the tumour was aspirated, and a small quantity of thick purulent matter drawn off, in which there was no trace of any echinococcus cysts or hooklets. The case was therefore diagnosed, at a meeting of the staff, as ovarian. On February 17th, chloroform having been given by Dr. Williams, Mr. Fitzgerald proceeded to operate in the usual way. The parietal layer of the peritoneum was fused into that covering the tumour, and a little trouble was experienced in separating them. Instead of ovarian fluid flowing out on the introduction of the cannula, about ten pints of puriform hydatid fluid, with many daughter-cysts, came away. The parent-cyst, the walls of which were very thick and vascular, was adherent to the omentum, transverse colon, and the right lobe of the liver, from which latter place it seemed to take its origin. Considerable hæmorrhage occurred on breaking down these adhesions. The parent-cyst being withdrawn from the peritoneal cavity, several minor ones were found in connection with its surface. Detaching the tumour was a matter of great difficulty, particularly where it was adherent to the transverse colon, several vessels having to be twisted. The whole was removed, and a pedicle made of that portion attached to the left lobe of the liver. Hare-lip pins were passed deeply through the abdominal walls, including the peritoneum, transfixing this pedicle. Pins were also superficially passed through the stump of the pedicle, and a stout ligature was tightly tied round the latter. The whole operation was conducted under the antiseptic conditions, and the peritoneal cavity washed out with a tepid carbolic solution. The patient made a good recovery. Mr. Fitzgerald considers this an unique case, as he knows of no similar one on record. The reasons of the mistaken diagnosis were the long pedicle from the liver allowing the tumour to be pulled down into the pelvis, and its being adherent in front. At the consultation, he mentioned the possibility of its being hydatid, but the microscopic examination rather negated such a condition. He considers that the most important element in the treatment of the case was the use of hare-lip pins deeply through the walls of the abdomen, instead of the ordinary clamp. The former, he thinks, excited the peritoneum to throw out sufficient 'glutinous albuminoid material' to rapidly close the wound internally.—In the discussion which followed, Mr. Gillbee commented on the fact that, with proper precautions, the abdominal cavity was now more freely opened than was formerly held to be justifiable. The result in the present case justified the bold measures adopted.—Mr. Girdlestone remarked that internal hydatids generally had most intimate adhesions to various organs, and any attempt to remove them entire would probably be fatal. Several

such cases at home had proved fatal, and Mr. Spencer Wells was now in the habit of abandoning his operation, and stitching up the wound when hydatids were encountered. But this case illustrated the difficulties that may attend diagnosis, and the possibility of successful removal where the adhesions did not form an insuperable obstacle. The long neck of the cyst was a very remarkable feature, and doubtless a great assistance to the operator.—Mr. Fitzgerald expressed his concurrence with Mr. Gillbee's remarks concerning the ordinary treatment of hydatid cysts, and the mortality attending them. Had the nature of the case been exactly diagnosed, he would have pursued a plan which he had found very serviceable, namely, to insert six to twelve hare-lip pins into the tumour and so establish adhesions; then open the cyst, and introduce a large tube. Even with this method, the disease was not seldom fatal; the daughter-cysts were easily evacuated, but the parent remained and often died, and might then set up septicaemia. He questioned whether, with a full knowledge of the nature of the case, he would not still prefer the operation that was performed. The long neck of the sac to which Mr. Girdlestone referred was certainly very peculiar, and but for it no error in diagnosis would have occurred. The large drainage-tube inserted through the wound after the operation was doubtless important in securing the favourable result: he had employed it in several cases lately with great advantage. In his last six consecutive cases of operation for ovarian tumour he had employed warm carbolic lotion (1 in 150) very freely, and recovery took place in every instance. In one, a child, aged 14, the ovarian cyst wall was very thin at parts, and burst during the operation; the contents escaped in large quantity into the abdominal cavity. About a gallon of warm carbolic lotion was poured in, and made to pass all over the intestine, and into all the recesses of the peritoneum, which was then carefully sponged. The child made an excellent recovery. In no case did any symptoms of poisoning occur, though the urine was carefully examined.

10. *Ruhlmann on large Enchondroma of the Right Scapula: Extirpation with Resection of the Clavicle.*—In the *Gazette Médicale de Strasbourg*, No. 7, 1879, Ruhlmann relates a case in which Boeckel undertook, in a man of 55, the extirpation of an enchondroma, as large as an average child's head, which had appeared in consequence of a fall on the right shoulder three years previously, and filled the whole space between the right clavicle and the acromion, and had finally produced neuralgia and abnormal sensations in the right arm. After raising a flap of skin, and exposing the tumour, he divided the clavicle with a chain-saw between the two heads of the sterno-cleido mastoideus, in order to dislocate it afterwards at the acromio-clavicular-joint. The tumour had to be removed from the acromion and the upper cavity of the scapula with bone-forceps and chisel, while it was easily taken out from the supraclavicular fossa. The operation was carried out antiseptically; the course of the wound was almost free from fever. Eight weeks later, the patient was discharged quite healed. The tumour, which weighed 1,367 grammes, was a partially ossifying enchondroma.

11. *Lindemann on the Treatment of Carbuncle of the Upper Lip.*—In a malignant carbuncle of the upper lip, which had grown larger in spite of incisions, Lindemann (*Archiv für Klin. Chirurgie*, Band xxiii) succeeded in obtaining a favourable course, by means of numerous punctures with a

tenotome, and hourly injections of a two per cent. carbolic solution, at the edge of the diseased part. When the induration and swelling ceased, after three days, the punctures were discontinued, and only one injection made every three hours.

12. *Wolff on the Treatment of Cleft Palate.*—At the last meeting of the German Surgical Congress in Berlin, Herr J. Wolff showed a patient on whom he had performed uranoplasty and staphylorhaphy with complete operative success, but, as generally happens, without improvement of the patient's speech. He succeeded, however, in having an obturator made, which could be inserted without re-opening the palate, and which had yet made the speech normal, as has been proved by making the patient read. The obturator consisted of vulcanised soft India-rubber; it was hollow inside, and filled with air, and was consequently elastic and compressible, and allowed the co-operation of the muscles of the velum in pronunciation. The experience derived from this case showed the necessity of operating on the fissure of the palate in every case. Whilst, hitherto, there had always been a liability that it might be necessary again to cut open the newly formed palate after a perfectly successful operation, in order to introduce Suersen's obturator, there could be no question now of such liability. The operation must in future be successful as regards speech, either directly or with the assistance of exercises in speaking, electricity, etc., or with the assistance of the elastic obturator.

PATHOLOGY.

RECENT PAPERS.

1. WALLER, C.—On the Morbid Anatomy of Certain Forms of Postscarlatinal Nephritis in relation to their bearing on the Histogeny of Granular Kidney. (*Journal of Anatomy and Physiology*, July 1880, p. 432.)
2. GIBSON, G. A.—On a Valvular Hematoma. (*Ibid.*, p. 413.)
3. MAGUIRE, ROBERT.—A Contribution to the Pathology of Macroglossia and Hygroma. (*Ibid.*, p. 416.)
4. DRESCHFELD, J.—On the Changes in the Spinal Cord after Amputation of Limbs. (*Ibid.*, p. 424.)
5. DEBOVE, M., and LETULLE, M.—Anatomical and Clinical Researches on the Cardiac Hypertrophy of Interstitial Nephritis. (Extract from the *Archives Générales de Médecine*, March 1880.)
6. LEWINSKI.—On the Connection between Contraction of the Kidneys and Hypertrophy of the Heart. (*Zeitschrift für Klinische Medicin.*, Band i, s. 561; *Centralblatt für Med. Wissensch.*, No. 29, p. 536, 1880.)
7. LITTEN, M.—On the Biliary Form of Cirrhosis of the Liver. (*Charité Annalen*, Band v, 1878, et seq.; and *Centralblatt für die Med. Wiss.*, 1880, No. 30, p. 556.)
8. SIGRIST, W. F.—On the Influence of Flectrisation of the Liver on the Excretion of Urea. (*Petersberger Med. Wochenschr.*, 1880, No. 12; and *Centralblatt für die Med. Wissensch.*, 1880, No. 30, p. 559.)
9. ACKERMANN.—On Hypertrophic and Atrophic Cirrhosis of the Liver. (*Virchow's Archiv*, Band lxxx, Heft 3.)
10. ZUNKER.—On the Pathology of Lead Palsy. (*Zeitschrift für Klinische Medicin*, Band i, 496; *Centralblatt für Med. Wissenschaften*, No. 28, 1880.)
11. LANGENBUCH.—Intestinal Concretions removed by Enterotomy.
12. SONNENBURG.—A Case of Cystosarcoma of the Brain.

13. GREENFIELD, W. S.—On Anthrax and Anthracoid Diseases. (*Ibid.*, June 1880, p. 865; July 1880, p. 41.)

14. CREIGHTON, CHARLES.—On an Infective Variety of Tuberculosis in Man identical with Bovine Tuberculosis (Perlsucht). (*Lancet*, June 1880, p. 943.)

1. *Waller on the Morbid Anatomy of Post Scarlatinal Nephritis.*—Dr. Waller gives (*Journal of Anatomy and Physiology*, June 1880) a short description of the changes he has found in the kidneys of certain cases of post scarlatinal nephritis, which confirms the statements of Klebs concerning the characters of glomerulo-nephritis. He regards the cellular infiltration to consist of, in part, proliferated connective tissue elements, but mainly of emigrated white blood corpuscles. He refers to the various theories that have been advanced to explain the morbid anatomy of granular kidney, and in particular to that brought forward by Dr. Saundby, and he considers that the latter theory receives no support from his observations on post scarlatinal nephritis.

2. *Gibson on a Valvular Hematoma.*—Dr. Gibson (*Journal of Anatomy*, June 1880) describes the microscopical appearances of a small tumour which he observed upon the auricular surface of the tricuspid valve of a sheep. The description shows the tumour to have been caused by the effusion of blood between the folds of the valve, and at the time it was discovered the blood-clot was being replaced rapidly by fibrous tissue.

3. *Maguire on the Pathology of Macroglossia and Hygroma.*—Mr. Maguire describes (*Journal of Anatomy*) the case of a little girl with enlarged tongue and a tumour in the neck. The tongue filled the mouth and protruded from the lips, the protruded part being hard, dry, and covered with enlarged papillae. On the surface of the tongue were a number of small clear cysts; the lips were not thickened. The child died subsequently, after having had the tongue removed by operation. The tongue and tumour were removed, and found to consist of dilated blood and lymph vessels, with connective tissue, and muscular fibres having proliferated nuclei. The lymphatic glands of the neck were enlarged, and injections from the thoracic duct failed to reach the tumour, or the glands in the neck.

4. *Dreschfeld on the Changes in the Spinal Cord after Amputation of Limbs.*—Dr. Dreschfeld records (*Ibid.*, p. 424) briefly the case of a man who had had his left thigh amputated fifteen years before death, and who died a few days after ligature of the left common iliac artery for an arterio-venous aneurism. Beyond a large amputation neuroma the left sciatic nerve was healthy; the cord showed no naked-eye changes, the brain was symmetrical; cortex unimpaired. Microscopically, the cells of the left anterior horn were represented by three or four small atrophied pigmented cells in each group, destitute of processes, and with scarcely visible nuclei. The other parts of the cord were normal. No information is given as to the microscopical appearances of the cerebral cortex.

5. *Debove and Letulle on the Cardiac Hypertrophy of Interstitial Nephritis.*—The authors (*Archives Générales de Médecine*, March 1880) draw special attention to the increase of connective tissue in the hypertrophied hearts, associated with granular kidney. They consider that this increase has not received the consideration it deserves; in their opinion it is the determining cause of the muscular hypertrophy, by interfering with the action of the heart. They regard its formation as part of an uni-

versal fibrosis. It leads ultimately to cardiac failure, with dropsy and diminished urine, thus causing a departure from the typical characters of this form of Bright's disease, polyuria and slight or transient cedema. They assert that 'renal affections, other than interstitial nephritis, have no influence upon the heart'.

6. *Lewinski on the Connection between Contractions of the Kidneys and Hypertrophy of the Heart.*—Lewinski (*Zeitschrift für Klinische Medizin*, Band i) has experimented on dogs by simply narrowing one renal artery, and when the animal had completely recovered from that operation, repeating it on the other. After some weeks there resulted a smooth white atrophy of the kidney, which was due simply to fatty degeneration of the epithelium. Out of six cases which were quite successful, five had hypertrophy of the heart without dilation. The other case, in which there was no hypertrophy, was in a state of marasmus from an ichorous discharge from the nose. He explains the hypertrophy as the consequence of the increased tension in the aorta, and with reference to Gräütz and Israel's failure to find such increase, suggests that it does not reach an amount which can be estimated by the hæmadynamometer. He thinks the increased tension is due to the narrowing of the renal arteries, and disbelieves in its causation by accumulation of urinary matter in the blood, in spite of the observations of Ustimowitsch and Grützner on the influence of urea in raising the blood-pressure, because the quantity present in the blood from renal disease would not be so great as that employed by these observers. Professor Senator, in reporting this from the *Centralblatt*, says, parenthetically, that it might, at any rate, be enough to raise the aortic tension to a degree not 'recognisable with the hæmadynamometer'.

7. *Litten on the Biliary Form of Cirrhosis of the Liver.*—Litten (*Charité-Annalen*, Band v) opposes Charcot's view that a form of hepatic cirrhosis is a consequence of simple biliary stasis. He attributes it to inflammatory irritation of the bile passages, which determines by propagation a hyperplasia of the surrounding connective tissue. He confirms the statements of other authors that the numerous newly-formed bile ducts are to be met with in all forms of cirrhosis, and consequently are not peculiar to 'biliary cirrhosis', and that the connective tissue around the hepatic vein often shares in the process. He has seen several cases disproving Charcot's statement that hypertrophic cirrhosis never becomes atrophic. [Charcot admitted the possibility of this, but regarded it as rare.—*Rep.*]

8. *Sigrist on the Influence of Electrification of the Liver on the Excretion of Urea.*—In the *Peterberger Med. Wochenschrift*, 1880, No. 12, Sigrist says that, in persons who, by regulated diets, were found to excrete urea not varying a gramme daily, he electrified the liver for fifteen minutes by strong induced and medium currents, one of the damp electrodes being placed over the ensiform cartilage, the other over different parts of the liver. He found an increase of the excretion of urea result, which stopped two or three days after the application of the battery. In one case the quantity rose from 31.5 on the day before to 74.9 on the day after the use of the current. In one case of hypertrophic cirrhosis diminution of the liver was noted. By galvanising the spine the urea was diminished, also by faradising the spleen and the abdominal muscles there was a similar but smaller diminution, which he explains by contraction of the spleen and the increased intra-

abdominal pressure on the liver. Simultaneous enumeration of the blood corpuscles during faradisation showed a marked increase of the red corpuscles, but in the few observations a parallelism with the course of the urea excretion could not be recognised. Sigrist holds the estimation of the urea to be necessary when liver changes are in question, and, further, that faradisation permits a moderate increase of the liver secretion, which changes the condition of the blood, and may thus influence diseased processes.

9. *Ackermann on Hypertrophic and Atrophic Cirrhosis of the Liver.*—In the course of a long article on this subject (Virchow's *Archiv*, Band lxxx, Heft 3) Ackermann shows, in opposition to Hanot, Charcot, and Gombault, that the biliary canaliculi, said by them to be characteristic of hypertrophic cirrhosis, are found in all forms of fibrous hepatitis, and to a very large extent in the atrophic form. He maintains that hypertrophic cirrhosis grows from the normal capillaries of the liver, while atrophic cirrhosis is not as Charcot says, 'portal' in its origin, but grows from the liver cells and the interacinous arterial twigs. Hypertrophic cirrhosis is not throughout unilobular, and the atrophic is not entirely multilobular. The latter is also by no means altogether interlobular, but also in part invades the lobules. The biliary canaliculi are not characteristic of either form, they are not formed from rows of liver cells, and do not anastomose with them, but are newly-formed in the neoplastic connective tissue.

10. *Zunker on the Pathology of Lead Palsy.*—Zunker relates (*Zeitschrift für Klinische Medizin*) the cases of a painter who suffered from lead colic and paralysis, advanced phthisis, and chronic renal disease. He had marked blue line on gums, double paralysis and atrophy of the extensors of the hand and fingers (the supinators excepted), atrophy of the thenar, hypothenar, and interosseus muscles, paralysis of the extensores digit. pedis, and peronii on the left, paresis of these muscles on the right side, no alterations of sensation, bladder and rectum intact, mind unaffected, the paralysed muscles not excited by either current, degenerative reaction of the parietic leg muscles on the right side. He found, *post mortem*, corpora amylacea in the anterior and postal spinal nerve roots, as well as on the cord itself, especially in the posterior columns. The fibres of the nerve-roots were only smaller than normal. In the cervical region the grey matter was of a normal shape; in the dorsal region, from the middle downwards, the left anterior columns were smaller, atrophied, and full of corpora amylacea, finely fibrillated; the anterior horn cells were smaller than those of the opposite, in part completely disappeared. In the cervical and lumbar regions the multipolar ganglion cells were smaller and darker than normal, and destitute of broad processes, but not to be compared with the atrophy seen in progressive muscular atrophy. In the lower part of the cervical portion there was a small microscopical patch of sclerosis.

ROBERT SAUNDBY, M.D.

11. *Langenbuch on Intestinal Concretions removed by Enterotomy.*—At the meeting of the Surgical Congress in Berlin in April, Dr. Langenbuch showed some large concretions which he had removed from the stomach and small intestine of a man by enterotomy. The patient had often suffered from attacks of ileus, which had been stopped by enemata of iced water. He was subjected to enterotomy by Herr Langenbuch in a similar attack which could not be

removed by these means. Herr Langenbuch found a swelling in the jejunum, laid open the intestine, and took out the mass, which was compressed into the intestine below the stomach. Vomiting continued, and the patient died a few hours after the operation. The necropsy revealed a second, still larger, mass in the pyloric region of the stomach. Examination of the tumours by Herr Virchow showed that they consisted almost solely of organic substance and especially of the derivative of the bile-acids known as dyslysin. In answer to a question by Herr Esmarch, Herr Langenbuch added, that neither of the coprolites contained any carbonate of magnesia. It was remarkable that they were not found in the large intestine, but in the jejunum and in the stomach.

12. *Sonnenburg on a Case of Cystosarcoma of the Brain.*—At the meeting of the German Surgical Congress in April, Dr. Sonnenburg of Strasburg showed a cystosarcoma of the brain, removed from a girl aged 13, who had been a patient of Dr. Lücke. She was said to have had inflammation of the brain in her first year, since which she had had a gradually growing tumour on the left anterior half of the skull. If this tumour were pressed, giddiness set in; she had had epileptic attacks for three or four years. There was no defect of intelligence. Pulsation was distinct. An accurate diagnosis could not be made during life. By puncture a clear indifferent liquid was evacuated; and the cannula came into contact everywhere with smooth walls. The treatment consisted in drainage by a silver wire and counter-opening. The profuse secretion prevented antiseptic treatment from being carried out. Death occurred in eight weeks from meningitis. The necropsy presented a number of cranial defects, into which the dura mater covering the tumour protruded. The tumour itself proved to be a gliosarcoma of the large left frontal lobe, extending to the neighbourhood of the lateral ventricle, which was dilated; it was softened in the centre. After the application of the drainage, the epileptic attacks ceased.

13. *Greenfield on Anthrax and Anthracoid Diseases.*—The *Lancet*, June 1880, p. 365; July 1880, p. 41, reports a lecture on those subjects, delivered by Dr. Greenfield at the University of London, in connection with the Brown Institution. We now know, says Dr. Greenfield, that the poison of the common anthrax or splenic fever consists in a bacterium, the so-called bacillus anthracis, or bacteridium, as it was called by Davaine, to distinguish it from bacteria, which had the power of motion. It is now generally regarded as an established fact, that the contagion of anthrax resides in the organism called bacillus anthracis. The enormous rapidity of the production of bacilli is well illustrated by the fact that 1-1000th of a cubic millimetre of fluid, taken from the peritoneal cavity of a guinea-pig that had died from anthrax, and in which no rods appeared visible to the microscope, was inoculated into the tail of a mouse. Twenty-four hours later the mouse died. Immediately the blood and spleen were found swarming with rods. Dr. Greenfield gives, at page 41, a summary of known facts that go to prove that the anthrax bacillus is really the cause, and not a consequence, of the diseased condition met with in anthrax. As to the origin and spread of anthrax, several facts support the view that corn and hay, etc., may convey the disease; the direct evidence, however, in favour of this mode of transmission, is as yet very inconclusive. Diseased meat is another means of conveying the contagium. The buried

carcasses of animals dying from the disease are also capable of propagating the disease, and, in most countries, great precautions are taken to prevent any mischief arising. Professor Fossa of Munich has made some important experiments bearing upon the duration of infection from buried carcasses of animals dying from splenic fever. He found all the carcasses that had been buried for any length of time innocuous and incapable of producing, when inoculated, the disease in healthy animals. Notwithstanding the negative results of these experiments, it may yet be an open question whether, in certain cases, the contagium does not persist in the surrounding soil. M. Pasteur and others have succeeded in reproducing anthrax by means of earth from the soil around the carcase of an animal which had died of anthrax some months before, and also in cultivating anthrax bacillus in earth, and infecting other earth from that over the carcase. Dr. Burdon Sanderson and Mr. Duguid have made experiments regarding the inoculation of anthrax and the protection arising from it, and have found that anthrax material, which has been transmitted through rodents, especially the guinea-pig, inoculated in cows, produced symptoms analogous to those of anthrax, very intense, but in no case fatal. It remains to be seen whether such inoculation will secure subsequent immunity from the disease.

14. *Creighton on an Infective Variety of Tuberculosis in Man identical with Bovine Tuberculosis (Perlsucht).*—In the *Lancet*, June 1880, p. 943, Dr. Creighton brings forward his views on this subject, derived from the study of certain cases that occurred at Addenbrooke's Hospital. The cases are eight in number, notes of the *post mortem* appearances of which are given in detail, and the conclusion at which Dr. Creighton arrives is as follows: that they are all cases of bovine tuberculosis, bearing precisely that relation to bovine tuberculosis which glanders, in the human subject, has to equine glanders. Bovine tuberculosis (*perlsucht, pommelière*) is a disease by itself, as much as glanders is. The salient differences between bovine and human tuberculosis are as follows: 1. The occurrence of tumour-like embolic infarcts in the lungs; 2. The implication of the bronchial, or of the mesenteric and portal lymphatic glands; 3. The characters of the new growth in the wedge-shaped infarcts and round nodules (of various sizes) in the lungs, and its corresponding character in the lymphatic glands; 4. The character of the eruption in the serous membranes, and its relative frequency; 5. The microscopic appearances; 6. The element of obscurity in the cases, viewed as cases of ordinary or autochthonous tuberculosis. Of the eight cases, four were females, four males. It is probable that a special intensity of the virus, and predisposition in the individual, are, in most cases, necessary for the establishment and development, to any considerable extent, of the bovine disease in man. Professor Virchow thus spoke in 1877: 'In conclusion, I would briefly direct attention to a question much ventilated in Germany at present: viz., in how far one of the diseases which we have hitherto regarded purely as a spontaneous disease of the ruminant animals, I mean bovine tuberculosis (*perlsucht*), is a communicable disease, and, indeed, a disease communicable to man. If this were the case, it would follow that sanitary regulations should be directed against this disease to a much greater extent than hitherto. It has, in the first place, been determined by the inoculation upon other animals of substances from ani-

mals that have died of perlsucht, that the disease may be communicable exactly in the same way as in the inoculation of tuberculosis; on that point there is in Germany no longer any doubt. A further question is, whether, by the partaking of substances coming from a tuberculous (*perlsüchtig*) animal, similar, and, in fact, tuberculous diseases, may be induced in man. This question divides itself into two main points; in how far such an infection may arise from the partaking of flesh, and in how far through milk.'

RICHARD NEALE, M.D.

PHYSIOLOGY.

RECENT PAPERS.

1. HENSON, SYDNEY. — On Persistent Vitality. (*Brit. Medical Journal*, April 1880, p. 574.)
2. RICHARDSON, W. B. — On Fleuss' New Diving Apparatus for Living in Irrespirable Air. (*Lancet*, June 19, 1880, p. 957.)
3. VON ANREP. — Peripheric Measurements of Temperature. (*Würzburger Phys. Med. Verhandlungen*, Band xiv.)
4. RANVIER. — The Terminal Nerve System of the Muscles.
5. FRÄNKEL, A. — The Doctrine of Regulation of Heat. (*Zeitschrift für Klin. Med.*, Band i.)
6. LEWIS, B. — Alcohol and Animal Heat. (*Journal of Mental Science*, April 1880.)

1. *Henson on Persistent Vitality.*—In the *British Medical Journal*, April 1880, p. 574, Mr. Sydney Henson relates a case of a married woman, aged 71, who, since January 20th, 1880, until April 10th, 1880, had not taken a particle of food. Occasionally she, with difficulty, being paralysed, swallows a teaspoonful of water. Spare in body before her illness, she is now apparently 'nothing but skin and bone'.

2. *Richardson on Fleuss's New Diving Apparatus, and on living in Irrespirable Air.*—An abstract of a lecture on the above subject is reported in the *Lancet*, p. 957, June 19, 1880. The apparatus used is as follows:—A helmet in which there is a space of one quarter cubic foot, and into which he condenses by pressure sufficient oxygen for four hours' breathing purpose. Next there is a cuirass with two chambers, charged with porous India-rubber, cut into small pieces, and saturated with soda. Over his mouth Fleuss has tied firmly a mouth-piece, which is double-valved, and to which is attached a flexible tube like an artificial windpipe, which runs into the front soda chamber. When the helmet is on, and all is adjusted, so that he is comparatively shut out from water or gas, he breathes through the tubes into the soda chambers, by which all the carbonic acid of the breath is permanently fixed, while the oxygen which is not used in respiration, together with the nitrogen, passes through those chambers, escaping at the upper part of the chamber at the back of the cuirass, and moves with the stream of oxygen, which is let down into the helmet by a valve that can be easily regulated. In this way M. Fleuss makes, as it were, an atmosphere of oxygen and of nitrogen, in which he continues to live until the oxygen in the compressed air chamber above is exhausted. To remove the water of the breath (which has proved troublesome) he has made a little trough at the bottom of the soda chamber, in which the water is collected without impeding the passage of air from the lungs. Dr. Richardson explained his views as to the value of nitrogen in the

atmosphere, viz., that it is an equaliser of temperature, and in that way enables oxygen to come into natural action in all common temperatures. By the presence of nitrogen, which equalises the distribution of heat over all the earth, the fluctuations in the activity of oxygen on man and animals are, in short, kept within natural limits. The practical inference with regard to M. Fleuss was, that he could live in medium temperatures, that he would be in danger in inhaling oxygen in his apparatus in very low temperatures for a length of time, and that he would also be in danger at a tropical temperature. The great value of the apparatus in rescuing persons from fires, and entering places fitted with irrespirable air, were finally pointed out.

R. NEALE, M.D.

3. *Von Anrep on Peripheric Measurements of Temperature.*—B. von Anrep (*Würzburger Phys. Med. Verhandlungen*, Band xiv) has measured, in fifty patients with pulmonary disease, the temperature of the skin by means of a specially constructed thermometer with a flat reservoir for mercury, which was protected against the influences of the external temperature by a glass shade. He sums up his result in the following sentences. 1. The peripheric measurements of the temperature of the skin may be of practical importance. The grades of temperature observed are not accidental, but they are in direct relation to certain conditions of the internal organs (lungs). 2. In healthy persons, it is only seldom observed that the temperature of one side is equal to that of the other. A slight irregular difference is almost always observed; sometimes the temperature of the right side is higher, sometimes that of the left side, the difference, however, never exceeds 0.1 to 0.3°C . (0.18 to 0.54 Fahr.) 3. The temperature is always higher on the side where there is an inflammatory process. The difference varies from 0.3 to 1.5°C . (0.54 to 2.7 Fahr.) The temperature is lower at a point of the skin which corresponds with a cavern situated at the periphery, than at any other parts of the chest. 5. That portion of the lungs which is completely croupous gives a lower temperature than the part which is in the first stage of pneumonia.

4. *Ranvier on the Terminal Nerve-System of the Muscles.*—The lectures on general anatomy delivered by M. Ranvier at the Collège de France* in 1877 and 1878 have been collected, and edited by MM. Weber and Lataste, and published with illustrations. In conjunction with the volume, of which we noted some striking points in the LONDON MEDICAL RECORD, July 15, p. 277, and the other two volumes published by M. Ranvier on the nervous system, an important term of the series of researches undertaken by the author on the organs of motion and sensibility, the histological and physiological study of the myocardium, is there resumed in great detail. The ultimate terminations of the nerves in the cardiac fibres have been tracked as far as possible. Every trabecula of muscular cells seemed to be surrounded by a pale fibrilla not accompanied by nuclei, which surround (*en file*) Weissmann's segments, but the terminal extremities of these filaments still escape observation. In the lymphatic hearts, the termination is, on the contrary, well made out by the author's researches. It is formed by terminal ramifications or motor patches, perfectly analogous to those of the ordinary striped muscles. The œsophageal

muscles are likewise furnished with motor patches, but between these motor patches and the grey myelencephalic grey centres ganglionic plexuses are interposed. In the smooth muscles, the nerves end in motor patches, spotted rudiments of the terminal eminences of the striated muscles, applied directly over the muscle-substance. An important conclusion, easily to be deduced from the facts indicated, is that the method of termination of the nerves in a muscle has not any influence on the subordination or non-subordination of the contraction to the will. If there do not exist, on the track of the motor nerve, any interposed ganglion, the contraction will be voluntary, whether the muscle be smooth or striated; it will be involuntary if there exist between the initial excito-motor centre and the organ of the movement a sort of nerve-screen constituted by a ganglionic mass.

5. *Fränkel on the Doctrine of Regulation of Heat.*—A. Fränkel (*Zeitschrift für Klin. Med.*, Band i, and *Centralblatt für die Medicin.*, Wissensch., April 14) endeavours to solve the question, in what way and through what means, during changes in the production of heat in the body, the changes in the cutaneous circulation which make up the compensation through the giving off of heat, are effected. Heidenhain—as is well known—was the first to prove that the heat of the body is affected by the system of nerves under the sole agency of the circulation, by showing that, under reflex as well as indirect irritation of the medulla oblongata, the temperature of the blood in the large vessels decreases. The acceleration of the blood-stream, observed by Heidenhain, has been traced by Ostroumoff to an irritation of the nerve-fibres which dilate the vessels. Over-production of heat in the organism under normal conditions is dependent upon strong muscular activity and increased food-absorption, both of which go hand in hand with increase of production of carbonic acid. The carbonic acid, however, directly irritates the centres located in the medulla oblongata, and consequently the formation of this end-product of the change of matter must be also connected with regulation of heat. As the accumulation of carbonic acid coincides with deficiency of oxygen, the author tried to decide his task by insufflation of differently combined quantities of carbonic acid, oxygen, and nitrogen into the lungs of dogs. The insufflation was done with a compressible India-rubber ball, which was connected by a three-branched tube cannula, tied into the trachea of the animal, with gas-reservoirs, and with the atmospheric air. The cutaneous temperature of the paws, and that of the rectum, were measured. Some days before carrying out these experiments one sciatic nerve was cut through, in order to ascertain, by comparative measurements of both hind-paws, whether the changes in the cutaneous temperature, eventually to be observed under the influence of insufflation, originated from a changed innervation of the vessels remaining in connection with the centres or not. Three series of experiments showed, on the side on which the sciatic nerve was uncut, a rise of temperature; on the paralysed side, a standstill, or even fall of temperature. The inconstancy of the influence of the accumulation of carbonic acid on the irritation of the nerves dilating the vessels, observed by the author in other experiments, he traces back to prolonged restraint of the animals, and the simultaneous decrease of the temperature inside the body, and the continuous influence of the curare. The author is now of opinion that the increased production of car-

* *Leçons d'Anatomie Générale faites au Collège de France.* Par L. Ranvier. Appareils Nerveux Terminaux des Muscles de la Vie Organique (Cœur sanguin; cœurs lymphatiques; œsophage; muscles lisses). Paris: J. B. Baillière et Fils.

bonic acid in the organism, which occurs in increased temperatures under the influence of muscular activity, as well as of absorption—absorption of food—is one of the factors which regulates the activity of the nervous apparatus that governs the extent of the production of heat.

6. *Lewis on Alcohol and Animal Heat.*—Dr. Bevan Lewis, in a paper contributed to the *Journal of Mental Science*, April 1880, has published some interesting observations on this subject. In opposition to the view that large doses of alcohol lower temperature by directly checking tissue metamorphosis, Dr. Lewis has found, by the use of the calorimeter, that in animals the ingestion of alcohol is invariably followed by an augmentation of the total heat-formation, and that though thermogenesis may receive a slight check as a primary effect of the alcohol, the ultimate issue is invariably 'the formation and discharge of a much increased heat-product, often double or treble the normal amount'. Dr. Bevan Lewis, however, has observed a primary check to heat-formation when small doses of alcohol are given. This check was followed, when it was appreciable, by an increased heat-formation, proportionate in extent and time to the size of the dose. The climax of heat-formation was found to be usually coincident with the registry of the lowest bodily temperature. The restitution of bodily temperature is somewhat sudden after small doses, but extremely slow after very large ones. Dr. Lewis concludes that, with regard to the action of alcohol on animal heat, the characteristic feature is that it greatly increases the heat-product, whilst the dispersion of the freshly formed heat is facilitated by peripheral vaso-motor paresis. The author of the paper, which embodies the valuable results of many interesting experiments, lays down a notable caution regarding the simultaneous use of chloral-hydrate and alcohol. He says, 'the action of chloral as affecting thermogenesis being similar to that of alcohol, we obtain by their combination a most powerful vaso-motor depressant, and one which should be used with great caution'. WILLIAM STIRLING.

OPHTHALMOLOGY.

RECENT PAPERS.

1. CHISHOLM, JULIAN J.—Salicylate of Sodium in the Treatment of Iritis. (*Knapp's Archives of Ophthalmology*, June 1880.)
2. NOYES, HENRY.—On a Case of Acute Myelitis with Double Optic Neuritis. (*Ibid.*, vol. ix, part 2.)
3. STEINHEIN, B.—The Treatment of Keratoconus by Eserine. (*Ibid.*, vol. ix, part 2.)
4. KNAPP.—Removal of Fragments of Iron from the Vitreous Body. (*Knapp's Archives*, vol. ix.)
5. SPALDING.—On a Case of Intracranial Tumour. (*Ibid.*)
6. KNAPP.—Pathology of the Frontal Sinuses. (*Ibid.*)
7. AYRES.—A Case of Glioma Retinæ. (*Ibid.*)
8. PROUT, J. S.—On removal of a Fragment of Steel-Pen from the Vitreous Body. (*Ibid.*, vol. ix, part 2.)
9. KNAPP, H.—On Optico-Ciliary Neurotomy and Neurectomy. (*Ibid.*, vol. ix, part 2.)
10. BURNETT, SWAN M.—A Case of Acute Chemosis. (*Ibid.*, vol. ix, part 2, June 1880.)
11. KNIES, MAX.—Diseases of the Uveal Tract. (*Ibid.*, vol. ix, part 2, June 1880.)

1. *Chisholm on Salicylate of Soda in the Treatment of Iritis.*—In a paper in *Knapp's Archives*, June 1880, Dr. Chisholm of Baltimore records one of a series of cases which have come under his notice, which demonstrate the value of salicylate of soda in the treatment of acute scleral and iritic inflammations. In this particular case the patient was a woman aged fifty, who had already on two occasions undergone the operation of iridectomy in both eyes for acute glaucoma, with a successful result. Subsequently, however, one eye became the subject of a very acute attack of iritis. Pus appeared in the anterior chamber, vision was reduced to the counting of fingers, and the vitreous humour was so turbid, that an ophthalmoscopic examination could not be made. Salicylate of soda was given in twenty-five-grain doses at intervals of 2½ hours. It was administered in this quantity during the night, and at the end of twenty-four hours the appearance of the eye was markedly improved. Considerable constitutional disturbance was caused by the drug; nevertheless, its use was insisted on for another day and night, after which it was discontinued. The patient finally regained perfect use of her eye, reading with suitable glasses, Jaeger, No. 1. To secure all the benefits of this method of treatment, it is necessary that the salicylate of soda be given in doses of from 20 to 30 grains every three hours—that is, from 150 to 200 grains in the course of the first day. The constitutional disturbance caused by such large doses is considerable, and may show itself by temporary deafness, tinnitus aurium, and even hallucinations. If decided benefit be not obtained in 48 to 72 hours, the salt is not likely to prove useful in the given case, and the stomach and head disturbances will generally necessitate a change of treatment.

2. *Noyes on a Case of Acute Myelitis, with Double Optic Neuritis.*—Dr. Noyes (*Knapp's Archives*, vol. ix, part 2) records a case of acute myelitis with double optic neuritis, treated by very large doses of iodide of potassium, and followed by recovery. The patient was aged 25, had never had syphilis, but had smoked tobacco for eight years to excess. The first symptom complained of was difficulty in micturition, and this was followed by a partial loss of sensation in the lower limbs. Examination at this period of the right eye showed vision = $\frac{2}{30}$ with a visual field greatly curtailed. The optic disc was swollen on the inner half, and a little hyperæmic, while on the outer and lower side it was nearly of normal elevation. The aspect was that of neuritis descendens rather than of choked disc. In the left eye vision = $\frac{2}{30}$, field normal; the œdema of the disc was less than in the other eye, and was confined to the inner half. The ocular symptoms—namely, impairment of sight and contraction of the visual field—gradually became worse for a period of about two weeks. At this time the patient was taking ten-grain doses of iodide of potassium, rapidly increased. A week later he was taking 220 grains of the salt daily, and the improvement in his symptoms was marked. The doses were increased to 300 grains daily, and continued for a month. At this date vision = $\frac{2}{30}$ in both eyes, the visual fields were perfect, and there was no deficiency in colour-perception. The author compares this case with a similar one reported by Stephan at the last Heidelberg Congress (1879), and with another reported by Dr. Seguin in the *Journal of Mental and Nervous Diseases*, April 1880. A special interest attaches to the question of the localisation of the disturbances which affected vision. For various reasons the author would localise them at least as

far back as the optic tracts, but not so far back as the region of the anterior portion of the tubercula quadrigemina.

3. *Steinheim on the Treatment of Keratoconus by Eserine.*—Dr. Steinheim records (Knapp's *Archives of Ophthalmology*, vol. ix, part 2) a case of double keratoconus, in which the left eye was treated by von Gräfe's method, the right by eserine and a pressure bandage. In the left eye, before operation, Jaeger No. 4 could be read only at 3", and fingers dimly discerned at 2'. Eight weeks after operation, Jaeger No. 1 was read at 4", fingers were counted at 7—8", and S = $\frac{1}{100}$. With the right eye, when the book was held on the side, Jaeger 3 could be read at $\frac{3}{4}$ ", and the largest type not beyond 3". By strongly pressing the eye with the lids, fingers could be plainly seen at 2" or 3"; beyond this distance polyopia and chromatopsia occurred. By pressing upon a certain part of the globe, which he had discovered for himself, vision was increased to $\frac{1}{3}$. On examination of this eye, the cornea was seen to be conically pointed, the apex was soft and bulging like a bladder, and on pressing upon the cone with the lower lid, it could be pushed aside in wrinkles. With the ophthalmoscope a moderate opacity of the vitreous was visible, and a high degree of sclerectasia posterior. Eserine treatment and bandaging were continued from May until October, when the patient could read Snellen 1 at 3", and Snellen 2 at 4". The author remarks that 'whether or not all cases of keratoconus will pursue such a fortunate course remains to be decided by future trials.'

4. *Knapp on Removal of Fragments of Iron from the Vitreous Body.*—In this paper, Dr. Knapp (*Archives of Ophthalmology*, vol. ix, p. 2), refers to the published cases of Hirschberg, Prout, and others, and adds two recent ones of his own. In the first, a splinter of steel had lain in the ciliary body for a period of seven months, and had produced chronic uveitis. Vision = $\frac{2}{100}$; the field was contracted on the nasal side, and there was a scotoma near the point of fixation. The amount of circumcorneal injection was moderate. With oblique light, a dark but partially lustrous body was detected in the inner part of the ciliary region. A large scleral flap was made, and after some unsuccessful attempts to withdraw the foreign body by means of an electromagnet, and afterwards by means of a grooved hook, it was finally grasped with iris forceps and removed. The case progressed favourably for six weeks, but at the end of that period suspicious symptoms of irritation in the other eye appeared. Optico-ciliary neurectomy was selected, instead of enucleation of the injured eye. Two months later the patient returned home, feeling no discomfort from the damaged eye, the cornea of which was completely insensible over its whole area. In the second case, a piece of steel had penetrated the vitreous body, and produced acute suppurative iridochoroiditis. With a Beer's knife, an incision of about 6 millimètres in length was made between the internal and inferior recti. The end of the magnet was introduced into the vitreous body, and advanced towards the median line, and the posterior pole of the lens. It was then passed inwards and withdrawn three times, without apparent result; but, after the third time, a chip of steel was seen lying in a bead of vitreous humour, and projecting out of the wound. Seven weeks after operation the condition of the eye was as follows:—S = $\frac{1}{100}$; pupil dilated; lens distinctly opaque in its inner quadrant, through which the

foreign body must have passed; floating white streaks in the vitreous humour. The author considers that the method of cutting directly down towards the foreign body by a scleral flap section, instead of a mere linear incision, is the best, in cases either of foreign bodies in the choroid or ciliary region, or in cases of subretinal cysticercus, and other similar conditions.

5. *Spalding on a Case of Intracranial Tumour.*—In the number of Knapp's *Archives of Ophthalmology* for June, Dr. James A. Spalding records a case of intracranial tumour, with symptoms, chiefly on the part of the eyes, which he had under observation for a period of five years. When first seen, the patient complained only of diplopia, which was found to be due to paralysis of the left external rectus, and which treatment relieved. Six months later, complete paralysis of the third nerve of the right side, with intense headaches, made their appearance. The ophthalmoscope at this stage showed nothing abnormal. Three years later, intracranial or cerebral disease could be diagnosed with great probability. At this date, the symptoms were, mydriasis, and engorgement of the vessels of the left optic disc, while the right was apparently normal. Partial paraplegia was also indicated by the dragging of the left foot. No ophthalmoscopic examination could be obtained until nine months after this date, when evident signs of retrograding optic neuritis were discovered. Before death, which followed some months after this last examination, sight had been absolutely lost in both eyes, and there was total hemiplegia, with partial anæsthesia. Both optic discs were completely atrophied. Memory was good, but the power of speech was very defective. The necropsy showed the presence of a cerebral tumour measuring 6 centimètres in height and from 15 to 18 centimètres in circumference. It extended from the anterior clinoid process to within 2 centimètres of the foramen magnum, encroaching laterally upon the apices of the petrous portion of the temporal bones. It had invaded the body of the sphenoid bone and neighbouring portions of the temporal bones. The tumour was bilobular, the right lobe being 1 centimètre higher than the left, and almost as hard and dense as bone. The optic nerves, commissure, optic tract, and olfactory nerve, were much thinned. A second tumour, of the size of a walnut, was found imbedded in the anterior and interior surface of the left hemisphere, and surrounded by a large clot of blood.

6. *Knapp on the Pathology of the Frontal Sinuses.*—The author records (Knapp's *Archives of Ophthalmology*, vol. x, No. 2) two cases of affections of the frontal sinuses. The first occurred in a patient aged 30. The symptom first noticed was intense and continuous headache, which, after a certain interval, was followed by swelling of the upper eyelid and protrusion of the eye. The outer half of the supraorbital margin was painful and hard, and eventually an abscess pointed in this situation. Six days after the opening of the abscess the patient was apparently much improved, but the headache gradually returned, and, eventually, vomiting and coma supervened. Death followed, and the necropsy showed gross lesions of the second convolution, involving a circular area 4 centimètres in diameter. A perforation existed in the horizontal process of the frontal bone, through which a probe could be passed into a lateral expansion of the frontal sinus. These cavities were filled with thick offensive pus, as were also the adjacent ethmoid cells.

The author remarks that, in these cases, the pointing of the abscess is nearly always on the inner half of the upper lid, mostly above the inner canthus, and sometimes, according to Mackenzie, beneath the middle of the superciliary arch. In this case, however, the swelling was so marked under the outer part of the supraorbital margin that it bore a great resemblance to acute inflammation of the lachrymal gland. The second case was one of polypi and accumulation of pus in the right frontal sinus, with an orbital tumour. The tumour had been noticed about four years before. A curved incision was made below the orbital margin, from the middle of the lid to the roof of the nose. On cutting deeper, a large quantity of offensive pus was liberated from a cavity which, on probing, proved to be the dilated frontal sinus and the upper anterior ethmoid cells. The thinned and defective bony orbital wall of the cavity was then broken down with a chisel and strong scissors, and fragments of bone were removed. On further exploring the abscess cavity with a probe and the little finger, a considerable amount of soft tissue was felt on its inner wall. This was afterwards found to consist of mucous polypi. The patient made a good recovery. In conclusion, the author remarks, that in case a fistulous opening had remained, or pus should have again collected in the frontal sinuses, the proper treatment would be to re-establish the communication between the sinus and the middle nasal passage by breaking through the ethmoid cells and inserting a tube or seton for a sufficient length of time, perhaps several months, as Bowman and others have done.

7. *Ayres on a Case of Glioma Retinae*.—Dr. W. C. Ayres describes a case of a somewhat unusual form of glioma (Knapp's *Archives of Ophthalmology*, June 1880). The patient was aged 9 years, and exhibited the characteristic appearances of glioma in the affected eye. The subsequent microscopic examination showed that the growth sprang from two centres, one in the external, the other in the internal granular layer of the retina. The transmission of the pseudoplasm along the optic nerve had taken place by virtue of the continuity of tissue, and independently of the presence of any intervening morbid tissue. The method of operating, and the instrument used, were directed towards removing the difficulty, which often arises, in catching the cut end of the nerve after it has once retracted within the orbit. On this occasion, Dr. Knapp employed a Langenbeck's ligating forceps, bent so as to suit the posterior curvature of the eye. Before dividing the nerve, these forceps were passed through the opening in the capsule of Tenon, and the nerve fixed at a point some millimètres from its entrance into the eye. In cases where the nerve after section proves normal, the forceps can be removed, and their office has been a superfluous one. If, however, the nerve should be diseased, it can be cut a second time as far back as desired. In the author's case, 15 millimètres length of nerve was removed after the enucleation had been completed.

8. *Prout on Removal of a Fragment of Steel from the Vitreous Body*.—Dr. Prout (Knapp's *Archives of Ophthalmology*, vol. ix, 2) records an interesting case of removal of a fragment of steel from the vitreous humour, with preservation of the eyeball and perception of light. Immediately after the injury vision was 'good', and the most important subjective symptom was a small central scotoma. A piece of metal could be seen lying in the vitreous humour, close to

the retina, and oscillating with the movements of the eyeball. An incision 6 millimètres long was made with a narrow knife and scissors about 5 millimètres behind and parallel to the margin of the cornea, through which an attempt to seize the foreign body with iris-forceps was made unsuccessfully. A scoop was next introduced, causing some vitreous humour to escape, and with it the piece of steel, which, lodging in the incision, was easily removed. An attempt was at the same time made to remove the lens, but only with partial success. The wound was closed with two sutures in the sclerotic, and the patient treated as after a cataract operation. He was discharged eleven days after, the eye being then free from irritation, and the pupil occluded by swollen lens matter. Vision=ability to recognise features at 2'. Two months later the eye presented a somewhat shrunken appearance; tension was diminished (T-3), and the line of incision retracted. Vision=perception of light. An irritable condition of the other eye existed, for which removal of the injured eyeball was advised, but refused. At the date of writing, four years after the operation, the eye is in a good condition; its appearance is almost normal, there being merely a slight discoloration of the iris. The anterior chamber is deep (T-1), and behind the pupil there is a white layer of slightly vascular new tissue, thick in the centre, through which a faint red reflex, but no view of the fundus, can be seen. Vision=perception of light. The movements of the eyeball are free, and, in the other eye, there are no symptoms of disturbance.

9. *Knapp on Optico-ciliary Neurotomy and Neurectomy*.—After some general considerations on this operation, as a substitute for enucleation, Dr. Knapp (*Archives of Ophthalmology*, vol. ix, part 2) gives details of six cases operated upon in his own practice. The first case was one of injury in the ciliary region, followed by sympathetic ophthalmia four weeks later. Neurectomy was performed eight weeks afterwards; a piece of the optic nerve, two or three millimètres in length, being at the same time removed. In the fourth week after the operation, a shallow ulcer developed in the centre and lower part of the cornea of the injured eye, and showed little tendency either to increase or diminish. The patient remained under treatment four weeks, and had several mild aggravations of his sympathetic ophthalmia. He left improved, but not cured; the inner part of the pupil being still adherent, and the media so clouded that the details of the background could not be distinguished. This condition eventually improved. The case is still under observation. Case 2 was one of painful absolute glaucoma. Neurectomy was performed, and recovery from the operation, *i.e.*, preservation of shape and movements of the eye, and perfect relief from pain followed. Case 3 was one of painful cyclitis, in a woman aged 35. Neurectomy was performed without myotomy, 4 millimètres of optic nerve and the surrounding tissue being removed. The posterior half of the globe was carefully trimmed. The wounds and lids were united by sutures. Fourteen days after the operation, the eye was free from pain, and the cornea insensible. Case 4 was one of chronic uveitis, from a piece of iron which had lain in the ciliary region for seven months [referred to in this number, under 'Two Cases of Removal of Fragments of Iron from the Vitreous Body, by H. Knapp']. The foreign body was removed with temporary improvement of the symptoms. Neurectomy (7 millimètres) was performed later on successfully. Case 5

was that of an enlarged and blind eye, from irido-choroiditis. The cornea was opaque. Neurectomy was followed by gangrene of the cornea and of the sclera, at the site of the wound and in the interior of the eye. Case 6 was that of a chalky cataract, in an atrophic eye, from old traumatic iridochoroiditis, in a girl 16 years of age. The optic and ciliary nerves were apparently thoroughly divided. Four days, however, after the operation, it was found that only the inner and lower parts of the cornea were anæsthetic.

10. *Burnett on a Case of Acute Chemosis.*—In Knapp's *Archives*, vol. ix, part 2, Dr. Swan Burnett records an interesting case of acute chemosis of the conjunctiva, dependent probably on deranged vaso-motor influence. The patient was aged 29, and had for some months past undergone severe mental labour. He consulted Dr. Burnett on account of a certain 'smokiness' of vision. Vision was $\frac{4}{10}$ ths. The ophthalmoscope showed atrophic spots around the periphery of the choroid of both eyes. As there was besides these symptoms an evident malarial condition, large doses of quinine were ordered. Three days afterwards the patient was seized with intolerable pain in the left eye and side of the head, accompanied with nausea and rigors, without, however, any notable elevation in temperature. Next morning the lids were red and swollen, and there was present a well-marked and perfectly clear chemosis. All these symptoms subsided within the next few days, without having caused any apparent changes or functional disturbance. The author considers that the pathological condition of the anterior portion of the choroid played the part of a predisposing cause, for, judging by the ophthalmoscopic appearances, morbid changes were slowly taking place there. These, however, were not in and of themselves sufficient to cause the circulatory obstruction necessary to the chemosis. The neuralgia of the fifth pair, probably of malarial origin, was no doubt the true exciting cause. This neuralgia may have caused in the first instance hyperæmia of the conjunctiva, which the anterior choroidal veins, owing to their diseased condition, were unequal to the task of removing.

11. *Knies on the Diseases of the Uveal Tract.*—In an able paper in Knapp's *Archives of Ophthalmology*, vol. x, No. 2, June 1880, Dr. Max Knies relates the clinical history and *post-mortem* examination of a case of double serous iritis. The patient was aged 19; and while under treatment died somewhat suddenly from croupous laryngitis, complicated with pneumonia. The eyes were removed shortly after death and preserved in Müller's fluid, and when sufficiently hardened were submitted to very careful microscopic examination. The centre of inflammation appeared to lie at the attachment of the iris and ciliary muscle, and in the adjoining portions of the ciliary body. Bowman's membrane was thickened, which, the author believes, points to the existence of 'a process located in the anterior part of the globe' and connected with increased tissue changes. In the formation of the patches characteristic of this affection, the membrane of Descemet is probably quite passive. A very important point brought to light by the *post mortem* examination was the pronounced cellular infiltration of the pia sheath of pia mater from the optic disc to the chiasma; hence, the author concludes that serous iritis is continuous and connected in both eyes. This condition of the optic nerve he regards as independent of any cerebral affection, as peculiar to iritis serosa, and as forming the connection between the affection of one

eye and of the other. Iritis serosa, according to the author, is essentially an affection of the whole globe, with the exception of the lens, which, however, frequently becomes affected in later stages of the disease. The seat of the inflammation is primarily in the uvea; but its continuous propagation can be demonstrated through the choroid, papilla, and optic nerve, along the chiasma, to the other eye, a process which hitherto has only been known to exist in certain gliomata. Iritis serosa has this in common with glaucoma, that the region of insertion of the iris participates in the affection, and that great variations of tension are often observed. Accurately speaking, iritis serosa is really an uveitis serosa in the widest sense of the word, in opposition to the purulent form; between these, however, only quantitative differences exist. The anatomical proof of a direct continuity in the inflammation of both eyes, as established by *post-mortem* examination in this case, is of fundamental importance, in explaining the origin of sympathetic affections. It would rehabilitate Mackenzie's theory of the propagation of sympathetic ophthalmia by means of the optic nerves through the chiasma. Should subsequent researches demonstrate the correctness of the inferences drawn from this case, it would no longer be possible to refuse unconditionally to accept a continuity in other double uveal affections, which begin with neuritis and do not occur simultaneously. [The bearing of this mechanical theory upon the pathology of sympathetic ophthalmia is at once evident, and, if established, will materially alter the accepted views on the subject, especially as regards the influence of the ciliary nerves.—*Rep.*]

LITTON FORBES.

SYPHILOGRAPHY.

RECENT PAPERS.

1. FOURNIER.—On Epilepsy in Secondary Syphilis. (*Annales de Dermatologie et de Syphilographie*, Nos. 1 and 2, 1880.)
2. KROWCZYNSKI.—On Malignant Syphilis. (*Vierteljahrsschrift für Dermatologie und Syphilis*, 1880, Heft i, p. 51.)
3. WHITE.—On Mechanical Pressure in Orchitis. (*Boston Medical and Surgical Journal*, Jan. 29, 1880.)
4. HALEY.—The Treatment of Orchitis. (*Australian Medical Journal*, April 1880.)
5. HUBER, KARL.—On Syphilitic Disease of the Blood-Vessels. (*Virchow's Archiv*, 1880, Band lxxix, Heft 3, p. 537.)
6. GOUGUENHEIM.—On Chancrous Folliculitis. (*La France Médicale*, April 14, 1880.)
7. MAURIAC.—On Retention of Urine occurring during Gonorrhœa. (*Le Progrès Médical*, April 17, 1880.)
8. VAN HARLINGEN.—Three Cases of Syphilitic Muscular Contraction. (*American Journal of the Medical Sciences*, April 1880, p. 399.)
9. ERÖSS.—Syphilitic Affections of the Larynx in Children. (*Fahrbuch für Kinderheilkunde*, 1880, Band xv, Heft 1, p. 139.)
10. CAMPANA.—Phagedæno-Gangrenous Ulcer. (*Giornale Italiano delle Malattie Veneree e della pelle*, April 1880.)
11. SIGMUND.—On General Treatment during the Early Period of Syphilis. (*Wiener Medizinische Wochenschrift*, April 17, 1880.)
12. SICHEL.—On Syphilis of the Conjunctiva. (*Gazette Hebdomadaire*, April 23, 1880.)

13. GALVANI. — A Case of Conjunctival Syphilis. (*Ibid.*, May 21, 1880.)

14. OTIS, F. N. — On Sulphide of Calcium in the Treatment of Suppurating Buboos. (*New York Medical Journal*, May 1880, p. 472.)

15. MARTINEAU. — Secondary Syphilitic Affections of the Vagina and Uterus. (*L'Union Médicale*, May 13 and 16, 1880.)

16. YANDELL and HOLLOWAY. — Second Attack of Constitutional Syphilis. (*Louisville Medical News*, May 22, 1880.)

17. DU CAZAL. — Cerebro-Spinal Syphilis. (*L'Union Médicale*, June 13, 1880.)

18. CHENEY. — A New Method of arresting Gonorrhoea. (*British Medical Journal*, July 24, 1880.)

1. *Fournier on Secondary Syphilitic Epilepsy.* — M. Fournier states (*Annales de Dermatologie et de Syphiligraphie*, Nos. 1 and 2, 1880) that his object in publishing the following cases is to establish the fact that certain symptoms of an epileptic character do sometimes occur during the secondary stage of syphilis, and especially during the early part of this stage. The symptoms are very different from those which occur during the tertiary period, as regards significance, evolution, and gravity. — CASE I. A young woman of fair constitution and previous health was admitted into the Lourcine Hospital on account of secondary lesions of the vulva and mouth. Some weeks later there occurred a severe outbreak of cutaneous syphilis, with enlargement of the glands, affections of the periosteum, headache, insomnia, etc. Suddenly there appeared a series of peculiar attacks, some of which were witnessed by M. Fournier, and of which he gives the following description. 'The countenance suddenly assumes an extraordinary indescribably stupid expression. The head is turned from the left side. The left upper extremity is suddenly raised towards the face, the wrist and fingers being strongly flexed. The lower limb of the same side is forcibly extended. The whole body, in short, is rotated from right to left. The phenomenon lasts a few seconds; then violent clonic spasms affect the left upper limb. Finally, the patient for some minutes longer remains stupid, stunned, and unconscious, and the fit is at an end.' During several days these fits were repeated, but very soon there appeared attacks of general convulsive epilepsy in every respect resembling the *haut mal*. There were a large number of such attacks during the first month. In the second month there were five fits, and only two during the next two months. Under energetic specific treatment the cutaneous and other lesions disappeared; the epileptic attacks also ceased, and did not return. — CASE II. A strong young woman of good constitution, was found on admission to be suffering from chancrous induration of the labium, with inguinal adenopathy, roseola, lesions of the tonsils, and general analgesia of the skin and mucous membranes. She had not undergone any treatment previously. Some days after admission the patient was seized during the night with a violent convulsive attack. She was found to be unconscious, foaming at the mouth, and in a state of convulsion like that of the *haut mal*. After the fit she fell into a deep sleep. A second fit occurred about a quarter of an hour later, followed by involuntary evacuation of the bladder, and an almost comatose condition, which lasted until the following morning. The next day M. Fournier found the patient somnolent, and incapable of answering questions. The excitement of the examination, however, brought on another fit, which was carefully observed by M. Fournier, and

found to present all the characters of ordinary epilepsy. The next day consciousness was fully regained, and the patient then affirmed that she had never before suffered from any attack of the kind, nor from any nervous affection whatever. There was no family history of any nervous disorder. Minute examination failed to reveal any other cause than syphilis. Protoiodide of mercury had already been prescribed, and was continued without any other medication; the effect being that the roseola and other signs of syphilis quickly disappeared, and the fits did not return. Three months later the patient was discharged in good health, but was seen on several occasions during a year afterwards for various slight syphilitic symptoms. There had been no return of the epileptic seizures. — CASE III. A robust young man, aged 25, of nervous temperament, contracted syphilis in 1867. In the secondary period, between the third and sixth months, he had three well-marked attacks of epilepsy. There was no hereditary tendency, and no other cause except syphilis could be ascertained. Under specific treatment the external signs of syphilis disappeared, and there was no repetition of the epileptic attacks. Thirteen years have now passed without any reappearance. These three cases, with about a dozen others observed by the author, prove, in M. Fournier's opinion, that symptoms of the nature of epilepsy may occur during the first few months of syphilis. M. Fournier looks upon this secondary epilepsy as being a *specific neurosis*; that is to say, it consists of a group of morbid symptoms developed under a specific influence, but occurring probably without any lesion of the nervous centres.

2. *Krowczynski on Malignant Syphilis.* — Dr. Krowczynski of Lemberg enters at some length into the history of syphilis, and particularly of its more severe forms. He then relates the following case (*Vierteljahrsschrift für Dermatologie und Syphilis*, 1 Hft, 1880). — An unmarried woman, aged 30, of healthy appearance and good muscular development, was admitted into the hospital on November 4, 1875. The patient stated that her present illness began in October, and followed intercourse with a man who was afterwards ascertained to be suffering from syphilis. On examination, two indurated sores were found in the neighbourhood of the commissure. Both labia were œdematous, and the inguinal glands were enlarged, hard, and free from pain. There was also a white discharge from the uterus. A lotion of sulphate of copper for the sores, and a vaginal injection, were ordered. The ulcers soon began to spread, and were dressed with powdered camphor. On the 8th November they had united, forming a large horseshoe-shaped gangrenous sore. The inguinal glands became larger and tender on pressure. The strength decreased, and on November 20 shivering took place with a temperature of 100.4° Fahr. Nov. 21. — Temperature, morning, 101.8°; evening, 102°. The temperature remained above 101.4° until Dec. 9, on which day there was a violent shivering fit, with headache, pain in the limbs, and general malaise. The spleen was enlarged. The urine was free from albumen. On Dec. 10 a general measles-like rash appeared. Temperature, morning, 101.8°; evening, 101°. The ulcer of the genitals remained as before. During the following six days the temperature was always below 101°. On the 15th shivering again occurred, the evening temperature being 103.5°. Next day the eruption had become papular, the papules being about the size of a lentil. The temperature during the follow-

ing ten days fluctuated between 100.4° and 101.4°. On Dec. 25 there was a third attack of shivering, the temperature rising to 103.5°, and a red halo was noticed round each papule. Vesicles and pustules now appeared on the skin, and the temperature fell to 100.8°. The pustules ruptured, and left small ulcers. On January 15, 1876, the ulcers were of the size of half-crowns, but the general condition had slightly improved. The genital ulcer remained as before as to size, but was cleaner, and granulations were springing up at the edges. The patient from this time improved steadily; the temperature fell to 100°. The appetite returned, and the ulcers on the body began to heal. On March 27 the primary sore was healed. On April 3 syphilitic patches on the palatine arch were noticed for the first time. The ulcers of the skin healed, but left raised hypertrophic scars, which soon afterwards broke down into ulcers. The subsequent cicatrisation occupied some time. No further relapse took place after this; but the patient remained in the hospital until January 4, 1877, by which time she had completely recovered. The man from whom she had contracted syphilis was now traced, and was found to have suffered very mildly. Condylomata on the genitals and in the throat having been his only symptoms.

3. *White on Mechanical Compression in Orchitis.*—Dr. O. A. White (*Boston Medical and Surgical Journal*, Jan. 29, 1880), describes an instrument invented by himself for compressing the testicle. The appliance consists of a thin layer of hardened rubber, moulded into a suitable shape for enclosing the affected organ. A cleft runs down the front of the shield to allow overlapping of its edges, and the rubber is perforated with numerous small holes through which a lace is passed, and thus a suitable and varying degree of compression can be effected.

4. *Haley on the Treatment of Orchitis.*—In the *Australian Medical Journal*, April 1880, is a short paper by Mr. G. Haley, of the Wangaratta Hospital, on the treatment of orchitis by hand-pressure. The author recommends that, after bringing an acute attack of orchitis to a standstill by leeching, depressants, etc., the patient should be kept lying down, and should be directed to grasp the testis in his hand, applying pressure just short of causing pain, and assisting the hand by pressing his thighs upon it. The pressure is to be kept up as nearly continuously as possible; but even if only applied during the day, Mr. Haley considers it far superior to strapping the testis. Cold bathing several times daily is an important adjunct. In mild cases, where the patient cannot lie up, a suspensory bandage may be used during business hours, and hand-pressure applied whenever possible.

5. *Huber on Syphilitic Disease of the Blood Vessels.*—Dr. Karl Huber of Leipzig relates the following case (*Virchow's Archiv*, Band 79, Heft. 3, 1880, p. 537). A woman, aged 22, had enjoyed good health until fourteen years old, when she suffered from scarlatina. In 1876, when she was twenty, she had an attack of left-sided pleurisy. On September 13, 1878, the patient was admitted into the hospital at Dresden with syphilitic ulcers of the genitals, psoriasis palmaris, mucous patches in the mouth, and other symptoms. She left the hospital on December 13, but was again under treatment in January for other syphilitic affections. On both occasions the symptoms disappeared under mercurial inunction. On February 8th, 1879, the patient noticed that her urine was thick, and that her legs were swollen. On February 11, she was admitted into the Leipzig hos-

pital, when there was considerable general œdema, and there were also signs of fluid in the thorax and abdomen. The œdema became slightly less under treatment, but soon returned, and remained more or less until death. The urine was always scanty, pale, and turbid, and contained a considerable quantity of albumen, as well as pus-corpuscles, and sometimes casts. Vomiting, diarrhœa, and prostration afterwards came on, and the patient eventually became comatose, and died on May 19th. The *post mortem* examination revealed a general diseased condition of the blood-vessels, with wide-spread calcification, which was most marked in the arteries. The liver was lardaceous and fatty. The spleen, great intestine, mesenteric glands, and right kidney were lardaceous. There were pyelo-nephritis of the left kidney, and inflammation of the ureter; cystitis, ascites, and anasarca, with fluid in the thorax and pericardium; embola in the arteries of the lungs; thrombi in the inferior cava and right femoral vein; ulcers of the great intestine and larynx; cheesy deposits, and recent inflammatory infiltrations, with œdema of both lungs. The changes of the vascular system were more extensive in the arteries than in the veins, but all the arteries of the pia mater and brain, and the coronary arteries, were healthy. The other arteries, beginning at the aorta, and extending to the small arteries of the hands and feet, were more or less altered by whitish or yellow patches of thickening, and by calcification, some of the arteries of the extremities being converted into chalky tubes. The lumen of the arteries, in many places, was completely blocked, this blocking being due, in some instances, to the morbid condition of the vessel, in others to thrombosis as well. In the veins there were patches of thickening in the larger branches of the upper and lower extremities, but more in the latter than in the former. The portal veins, and several branches of the pulmonary artery, were also similarly affected. There was calcification, to a limited extent, in the middle-sized veins, but more extensive in the small veins of the extremities, especially of the lower extremities. Some of the smaller branches of the pulmonary arteries were calcified to a slight extent. In some remarks on the case, the author states that the extensive disease of the blood-vessels could not have been caused by age, nor were there any grounds for suspecting the influence of chronic alcoholism. In the absence of other causes to account for it, he considers the vascular change must be looked upon as due to syphilis, although differing widely from the changes hitherto regarded as syphilitic. Dr. Huber, however, admits the difficulty of accounting for the escape of the cerebral vessels, supposing his view to be the correct one.

6. *Gouguenheim on Chancrous Folliculitis.*—M. Gouguenheim read before the *Société Médicale des Hôpitaux* a paper on this subject, which he had prepared in conjunction with M. Bruneau (*La France Médicale*, April 14th, 1880). The following are the conclusions arrived at by the authors. Chancrous folliculitis, or follicular soft chancre, is an affection which attacks most frequently the external surface of the labia majora. This lesion presents a pimply follicular character, which often causes it to be confounded with simple acute folliculitis. The follicular appearance may persist throughout, or it may disappear after a few days, the lesion taking the ordinary aspect of the simple chancre. The simple chancre is often coincident with the follicular chancre. Chancrous folliculitis often succeeds the

simple chancre, but the converse may occur. Chancrous folliculitis may exist alone, independently of any other ulcer. Implication of the inguinal glands is rare. The chancrous follicle goes through its evolution in three or four weeks. The follicular soft chancre is inoculable; but inoculation, contrary to what nearly always happens in the ordinary soft sore, has presented in some cases a period of incubation of from eight to twenty days. The diagnosis of the affection, when unaccompanied by ordinary soft chancre is impossible without inoculation. Most cases reported by authors as simple acute suppurative folliculitis, without the test of inoculation, may be regarded as cases of chancrous folliculitis. The existence of simple acute suppurative folliculitis of the vulva is hypothetical. Secondary suppurating folliculitis may be merely a follicular soft chancre developing on syphilitic ground.

7. *Mauriac on Retention of Urine in Gonorrhœa.*—In a clinical lecture on this subject, published in *Le Progrès Médical*, April 17th, 1880, M. Mauriac discusses the forms and the appropriate treatment of retention of urine due to gonorrhœa, the remarks being suggested by the case of a man admitted into the Hôpital du Midi, who had suffered from retention for eight days. Retention during gonorrhœa may present itself under two different forms. 1. *Instantaneous and complete retention.* In this variety the patient, after some such exciting cause as excessive drinking, sexual intercourse, or too much exercise, on trying to pass urine fails altogether to expel the smallest quantity. 2. *Progressive and incomplete retention.* The passage of urine, instead of being abruptly suppressed, undergoes a progressive diminution. The stream becomes gradually smaller, then stops suddenly, to recommence an instant later. The bladder is thus irregularly and often incompletely emptied. This state of things goes on from bad to worse, until at last complete retention is produced as in the first variety. The pain in retention is principally in the hypogastrium and perineum, extending backwards towards the anus and forwards to the end of the penis. Retention does not generally occur during the first weeks of a gonorrhœa, because the inflammation still remains limited to the spongy portion of the canal. Dysuria is common enough early, and is due to inflammatory thickening of the mucous membrane and partly also to the pain caused by micturition. It is at a more advanced stage, when inflammation has reached the membranous or prostatic urethra, and the discharge has become serous or muco-serous, that retention comes on; it is generally excited by some such cause as those mentioned above, but sometimes none can be ascertained. In considering the pathogeny of retention, M. Mauriac attributes the closure of the passage in most cases to reflex spasmodic contraction of the muscular tissue of the membranous and prostatic urethra, and not to inflammatory swelling of the mucous membrane. The second, or incomplete form of retention, the author has seen occur especially in irritable patients, the subjects of catarrhal 'urethrorrhœa' contracted from women just before, during, or just after the menstrual period. Although reflex muscular contraction is the most frequent cause of retention, inflammatory swelling of the prostate sometimes also causes it. The catarrhal urethritis, or bastard gonorrhœa just mentioned, reaches the deeper portion of the urethra with great facility, and then is frequently accompanied by reflex nervous phenomena. It is also, though apparently such an insignificant affection, quite as frequently com-

plicated with prostatitis, cystitis, epididymitis, and arthritis, as ordinary purulent gonorrhœa. Catarrhal urethritis also often lasts for an indefinite length of time.

Treatment of Retention.—When complete retention has lasted some hours, and the bladder is distended, a gum elastic catheter, slightly 'elbowed', should at once be passed; and if the prostate be unaffected there is usually no difficulty, but if the flexible instrument is arrested by spasm, a well warmed silver catheter should be used. In incomplete retention leeches may be applied to the perineum and the patient kept in a tepid bath for an hour or two, when he will often be able to pass urine without further assistance. If urine have not passed in the bath, an enema of starch and opium may be given and very hot poultices applied to the perineum. If all these means fail, catheterism is to be had recourse to. In very favourable cases only a single catheterism is required, but usually it has to be repeated during three or four days. The catheter should be used as long as the patient remains unable to empty his bladder completely.

8. *Van Harlingen on Syphilitic Muscular Contraction.*—Dr. Van Harlingen of Pennsylvania publishes (*American Journal of the Medical Sciences*, April 1880, p. 399), notes of three cases of muscular contraction occurring during the earlier stage of syphilis. In the first case, a woman, aged 25, mother of a healthy child two years old, suffered from suspicious sores of the genital organs in November 1877. In April 1878, she had a papular syphilide of the thighs and face, and mucous patches of the mouth and vulva. Under mercurial treatment the affections disappeared. In June, she began to complain of pain and difficulty of movement in the right arm and elbow-joint. The patient, who was pregnant, complained only of the right arm, which hung in a partially flexed position. Extension beyond an angle of 150 deg. was impossible, on account of what seemed to be a shortening of the biceps; and any attempt at further extension was met by a sudden check, accompanied by pain over the insertion of the biceps. The forearm could not be completely flexed upon the arm, and attempts at flexion caused pain over the outer condyle of the humerus. Both biceps and triceps were sensitive to pressure, the tendons being more sensitive than the muscular portion. The joint, skin, etc., were normal. Under treatment by mercury and iodide of potassium, the muscular affection disappeared in February 1879, and eight months later there had been no return. In the second case, that of a woman aged 44, the symptoms were similar to those in the first case; but here, the left arm was the one affected. The right knee, also, was somewhat swollen; the leg could be extended, but could not be flexed much beyond a right angle; and attempts at further flexion caused severe pain just below the patella. In less than three months all traces of the affection disappeared, under treatment by mercury and iodide of potassium. In the third case, the left arm was attacked. This patient improved under iodide of potassium, but the woman attended so irregularly, that the case could not be followed to its termination. From an analysis of these cases, and those of other observers (Notta, Buisson, Fournier, Mauriac, etc.), the author has arrived at certain conclusions, some of which are as follows. Syphilitic muscular contraction may attack any muscle of the body, but occurs by preference in the biceps brachialis, and next to this in the triceps. According

to Mauriac, the muscles of the left side are most usually attacked. Examination shows that the affected muscle, while entirely unchanged in form and consistency, is contracted; so that if the biceps, for instance, be affected, the forearm is flexed on the arm at a variable angle. Within this angle the limb can be moved, but extension beyond a certain point is impossible, and the attempt causes pain at the insertion of the biceps into the radius. When the triceps is also affected, neither flexion nor extension is possible. The muscle itself is generally not sensitive, but exceptions sometimes occur (as in Case 1). Pressure on the tendon more usually develops tenderness. General pains throughout the muscular system, with stiffness, soreness, and occasional cramps, in certain muscles, are usual. In each of the author's three cases, stiff neck, coming on towards night, was particularly noticed. Muscular contraction belongs to the early manifestations of syphilis, occurring most commonly, according to Mauriac, between the sixth and the tenth months. In one of the author's cases, it appeared in the seventh month; in the other two, between the twelfth and fourteenth months. Neither age, sex, nor occupation seems to exert a causative influence. Mauriac regards the process as a subinflammatory myositis, but Fournier does not agree with him. As no microscopic examination of the structures involved has yet been made, the nature of the change is unknown. The treatment should be that of the later stages of syphilis. Local applications have little effect. The prognosis is favourable, as the affection appears to tend to spontaneous recovery. Its course, however, may be much shortened by regular and continuous treatment.

12. *Sichel on Conjunctival Syphilis.*—M. Sichel, jun., remarks (*Gazette Hebdomadaire*, 23rd April 1880), that syphilitic affections, limited to the conjunctiva, are of such rarity, that he has only been able to collect fourteen satisfactory cases, the majority of these being instances of gummata. Still less frequent are primary sores, or early syphilides. A man, aged 28, came to M. Sichel's clinique, on Oct. 1, 1878, complaining of itching of the right eye, and a sensation as if a foreign body were present. There was no photophobia, nor periorbital pain. The eye was half closed. There was limited injection of the conjunctiva, and at the centre of the injected patch was a small oval tumour, reddish-yellow in colour, and the size of a grain of wheat. On October 10, the patient was seen by M. Sichel himself, who found a swelling measuring thirteen by six and a-half millimètres, situated between the insertion of the right internal and inferior recti muscles. The cornea was not involved. The surface of the swelling was excoriated and depressed, and in the depression was a little muco-pus. There was no pain, but only inconvenience from the sensation of a foreign body being present. The patient had an indurated cicatrix behind the corona, enlarged inguinal glands, and a general papulo-squamous syphilitic eruption. The case was seen by Ricord and by Fournier, both of whom diagnosed a papulo-ulcerating syphilide of the conjunctiva. Under mercurial treatment, the eye became perfectly normal by November 22nd.

13. *Galvani on a Case of Syphilis of the Conjunctiva.*—Dr. Jules Galvani of Athens relates (*Gazette Hebdomadaire*, May 21, 1880), the case of a man, aged 40, who complained of trouble in his left eye, which had come on gradually. On examination, the eyelid was found to be swollen, and partially closed.

The ocular conjunctiva was cedematous, and the cornea, with the exception of its central part, was hidden by the chemosis. The visible portion of the cornea was quite healthy. There was no watering of the eye, nor photophobia, but slight headache, worse at night, was complained of. No improvement in the eye occurred under scarification, quinine internally, etc.; and the pain in the head increased. The author now looked for signs of syphilis, and found a well marked syphilide on the face, breast, and arms, and enlarged lymphatic glands. Under mixed treatment, the local affections rapidly disappeared, and the patient regained his usual health.

15. *Martineau on Secondary Syphilitic Affections of the Vagina and Uterus.*—M. Martineau devotes a clinical lecture, reported in *L'Union Médicale*, May 13 and 16, 1880, to the consideration of secondary affections of the vagina and uterus, and refers to five cases which were in the Hôpital de Lourcine under his care. Vaginal and uterine syphilides are rare. Among 522 women with syphilis of the vulva, Fournier found twenty-five cases of cervical, and nine of vaginal syphilides. According to Martineau's experience the lesions are situated with almost equal frequency on the cervix uteri and vagina; of the five cases the vagina was affected in two, the uterus in one, and in two both uterus and vagina were involved.

Syphilides of the Vagina may be situated at the vulvo-vaginal orifice, or on the posterior or anterior vaginal wall. About the vulvo-vaginal orifice erosions and ulcers are seen; papules are more rare. When situated on the posterior vaginal wall the lesion is nearly always papular, and appears as a small round or oval papule of the size of a pin's head to that of a lentil, red, greyish, or whitish in colour. The number of the lesions varies usually between four and six, but there are occasionally more. In one case there were fifteen papules. They appear usually about the eighth week after the commencement of syphilis, but exceptions are numerous. Only two out of the five cases corresponded to this period. In the others, the lesions appeared later, viz., eight months and one year after the initial lesion. There is great difficulty in fixing the exact time of appearance, because the initial lesion in women often goes unnoticed. The syphilides also occur unknown to the patient and disappear without complication.

Syphilides of the Uterus may be erosive, papular, or ulcerating (the author has never seen roseola of the uterus). The erosions appear as small defined lenticular shallow ulcers. The papules present almost the same characters as elsewhere, viz., small projecting oval or elliptical discs from the size of a lentil, to that of a 20-centime piece; smooth on the surface, opaline or white, sometimes isolated, sometimes agglomerated, and may be situated on any part of the cervix. The ulcerating syphilides are often confounded with the ulcerations of metritis. The syphilitic ulcerations are shallow, are seated near the os, especially towards the centre, and have a smooth non-granular surface. These syphilides are indolent, and pass unnoticed by their bearer, the physician only discovering them when he looks specially for them. They do not usually give rise to metritis, though this is a very common complaint in syphilitic women. M. Martineau and his pupil M. Fourcault have described under the name of '*exulcerative hypertrophy of the cervix*' a lesion of the uterus which, according to them, appears during the evolution of secondary manifestations elsewhere. As M. Martineau has never met with this, he thinks it must be very rare,

if even it ever exists. *Diagnosis.* This is sometimes difficult. The erosions due to syphilis are lenticular, single or multiple, coppery red, contrasting sharply with the surrounding mucous membrane, exist independently of vaginitis, and may be situated on any part of the cervix. The erosions due to vaginitis, on the contrary, have a very bright red colour, are voluminous, bleed easily, are irregular, are often seated at the base of the cervix where it joins the vagina, and extend often over the whole of one portion of the cervix. There are, moreover, the physical and functional signs of vaginitis. The lesions caused by metritis exist generally on both lips around the os; they are granular; they appear at first as projecting inflamed follicles with a whitish apex, and afterwards become characteristic erosions. Uterine syphilides, from their opaline tint, might easily be confounded with the diphtheroid chancre of the cervix, described by M. Bernutz. This, however, is a large superficial ulceration of the size of a franc piece or even larger, covered by a greyish false membrane; it is non-infecting, auto-inoculable, and unaccompanied by other signs of syphilis. Secondary syphilides of the cervix may also be confounded with herpes and eczema. An attentive examination will, however, discover in these latter affections, vesicles in groups in the case of eczema, or isolated in herpes, and also the small characteristic 'collarete' will be seen at the circumference of the vesicles which have burst.

The *Prognosis* is very favourable. The lesions disappear with or without treatment. They are of importance, however, because they are a frequent cause of contagion, and are often overlooked, or mistaken for some other affection.

16. *Yandell and Holloway on Second Attacks of Constitutional Syphilis.*—In the *Louisville Medical News*, May 22, 1880, are reported two cases, one by Dr. L. P. Yandell, the other by Dr. Holloway, considered by the authors to be instances of syphilitic reinfection. In Dr. Yandell's case, a glistly induration behind the corona appears to have been the only symptom of the so-called second attack. In Dr. Holloway's case, there was a hard chancre, of the size of a split pea, on the mucous surface of the prepuce, with symmetrical enlargement of the inguinal glands. Under calomel and opium the sore disappeared in three weeks. There had been no secondary symptoms three months afterwards.

18. *Cheyne on a New Method of Arresting Gonorrhœa.*—Mr. Watson Cheyne remarks (*British Medical Journal*, July 24, 1880), that the extreme contagiousness of gonorrhœa, the existence of a distinct period of incubation, and the steady spread of the inflammation from a given spot, all point strongly to a parasitic origin. Acting on this idea, Mr. Cheyne introduced gonorrhœal pus into flasks containing infusion of meat, or of cucumber, and found that micrococci grew in large numbers, and sometimes also bacteria, showing that these organisms were present in the gonorrhœal pus. The author supposes that at the time of infection in gonorrhœa, a small number of the specific organisms are retained in the urethra, that these go on developing, that the products of their growth irritate and weaken the mucous membrane in their vicinity, that the organisms can then penetrate into and live in that weakened tissue, and that the extension of this process, over a portion of the mucous membrane of the urethra, is the cause of the inflammatory symptoms. The method of treatment recommended consists in the introduction of a bougie, composed of five grains of iodoform, ten minims of oil of eucalyptus, and

cacao butter. The bougie is of the size of a No. 9 or No. 10 catheter, and weighs forty grains. Subsequently, an antiseptic injection is used, and still later a slightly astringent one. The patient is first told to empty his bladder. He then lies down on his back, and a bougie, from four to six inches long, dipped in eucalyptus oil, or in carbolic oil (1 in 20), is introduced, and the urethral orifice closed by strapping. The patient avoids passing urine, if possible, for four or five hours. In severe or advanced cases, a second bougie is introduced after micturition. On the same, or the following day, a saturated aqueous solution of boracic acid, or an emulsion of eucalyptus oil (one ounce of the oil, and one ounce of gum acacia, to twenty or forty ounces of water), is used as an injection for two or three days. Afterwards, an injection of sulphate of zinc (two grains to the ounce) is begun. Alkalies and diluents are also given, and drinking is prohibited. The author states that he has used this method of treatment in about forty cases, and that the progress has been arrested in all. After a day or two the discharge diminishes, becoming mucous in four or five days, and ceasing altogether in a week or ten days. Scalding and pain disappear in thirty-six to forty-eight hours. In all the cases, treatment was begun from the first to the seventh day after the commencement of the symptoms.

ARTHUR COOPER.

DISEASES OF THE THROAT.

RECENT PAPERS.

1. ERÖSS.—A Contribution to Syphilitic Affections of the Larynx in Children. (*Wiener Medizinische Wochenschrift*, July 3, 1880.)
2. ISABEL.—Laryngeal Scrofulides. (Paris, 1880.)
3. JOHNSON.—A Case of probably Congenital Papilloma of the Larynx: Tracheotomy: Subsequent Thyrotomy. (*Archives of Laryngology*, vol. i, No. 1, 1880.)
4. WEBER.—On Bilateral Paralysis of the Glottis-Openers. (*Philadelphia Medical Times*, June 19, 1880.)
5. BAUER.—A Case of Laryngeal Tumour interfering with Respiration and Deglutition. (*Canada Lancet*, 1880, p. 302.)
6. LANGE.—A Case of Extirpation of the Larynx. (*Archives of Laryngology*, vol. i, No. 1, 1880.)
7. SMITH, W. C.—Laryngeal Phthisis. (*British Medical Journal*, vol. i, 1880, p. 701.)
8. THOMPSON.—The Viscera of a Child who died suddenly after Tracheotomy for Croup. (*Ibid.*, May 8, 1880.)
9. PEPPER.—The Local Treatment of Tubercular Laryngitis. (*New York Medical Record*, July 10, 1880.)
10. RIPLEY.—Tracheotomy in Croup. (*Ibid.*, vol. xviii, July 10, 1880.)
11. PACKARD.—Contusion over the Larynx: Probable Fracture or Rupture: Loss of Voice: Recovery. (*Archives of Laryngology*, vol. i, No. 1, 1880.)
12. FRANKS.—On a Chicken-Bone in the Larynx. (*British Medical Journal*, vol. i, p. 593, 1880.)
13. RISLEY.—On a Warty Growth pendent to the Uvula. (*Philadelphia Medical Times*, June 19, 1880.)
14. CALIGNON.—On the Extirpation of Naso-Pharyngeal Polypi without previous Operation. (Lyons, 1880, 4to.)
15. CRUVEILLIER.—Extirpation of a Naso-Pharyngeal Polypus by the Palatine Method: Restoration of the Palatine Arch by Fergusson's Method. (*Bulletins et Mémoires de la Société de Chirurgie de Paris*, April 5, 1880.)
16. THUDICHUM.—On Nasal Polypi. (*Lancet*, vol. i, p. 594.)

17. TAUBER.—On Adenoid Vegetations in the Vault of the Pharynx. (*Cincinnati Lancet and Critic*, vol. iv, 1880, p. 377.)

18. DELAVAN. — Foreign Body in Posterior Nares. (*Archives of Laryngology*, vol. i, 1880, p. 69.)

19. WAGNER.—A Case of Acute Idiopathic Perichondritis of the Nasal Septum terminating in Abscess. (*Ibid.*, vol. i, No. 1, 1880.)

1. *Eröss on Syphilitic Laryngitis in Children.*—The author remarks that syphilitic laryngitis in children offers essential differences from the same affection in adults; the prognosis being more unfavourable, and the course more rapid. He reports the following case (*Wiener Medizinische Wochenschrift*, July 3rd, 1880). A child, $3\frac{1}{2}$ years old, had suffered from whooping-cough for six months, and during that time had developed a scaly eruption of a transitory nature. On admission in November for suffocative dyspnoea a condyloma was found near the anus, and mucous patches were present in the corners of the mouth, on the inner surface of the lips, and on the tonsils. The mucous membrane of the nose was inflamed and injected; the glands in the neck and in the submaxillary and inguinal regions were enlarged. The hoarseness which began with the whooping-cough had increased until it amounted to aphonia, and there were now frequent suffocative attacks and convulsive fits of coughing. Laryngoscopic examination discovered the epiglottis thickened and three or four times its natural size; the ary-epiglottidean folds were thickened and pale red; the left vocal cord was more than twice as thick as the right; and at its free edge bulged out towards the opposite cord; both were of yellowish red colour. There can be no doubt that the laryngeal affection was only a part of the general constitutional syphilis, which was abundantly evidenced by other symptoms and by the result of the treatment (mercurial inunction). In two months and a half the child was almost quite well, although when admitted tracheotomy seemed urgently called for.

3. *Johnson on a case of probably congenital Papilloma of the Larynx.*—A child, 3 years old (*Archives of Laryngology*, vol. i, No. 1), had had for a long time difficulty of breathing, which was rapidly getting worse. He was now aphonic. There had been from infancy, and probably from birth, a peculiar character in the cry. The epiglottis was curled like a dead leaf and prevented the glottis from being seen. The child struggled whilst under laryngoscopic examination and had a severe attack of dyspnoea. Tracheotomy was performed and he improved for ten months, when he again had symptoms of dyspnoea, though the tube was free. Thyrotomy was performed and a papillomatous growth, of the size of a filbert, was removed from below the left vocal cord. The patient recovered from the operation; but, taking a chill, died eight days afterwards of pneumonia. Dr. Johnson suggests that, as the trachea was free, the paroxysms of dyspnoea subsequent to the tracheotomy were due to the reflex spasm of the respiratory muscles consequent upon the irritation of the nerves of the larynx.

4. *Weber on Bilateral Paralysis of the Glottis Openers.*—The patient (*Philadelphia Medical Times*, June 19th, 1880), was 37 years old, and presented the usual symptoms and laryngoscopic appearances of this affection. Immediate tracheotomy was advised, but was refused. Five days afterwards, Dr. Weber was hastily summoned, as suffocation seemed imminent. He found the patient cyanotic, and un-

able to assume the recumbent position. Tracheotomy was performed, but with the greatest difficulty, as the patient could not lie down, and as there was excessive venous hæmorrhage. Great relief followed the operation. At the date of publication, however, four weeks afterwards, a triangular space was found remaining open in the posterior third of the glottis, pointing to an extension of the paralysis to the arytenoid muscles. The cause of the paralysis was doubtful. Dr. Weber thought it was due to perichondritis of the cricoid, consequent upon tubercular ulceration of the larynx.

5. *Bauer on a Case of Laryngeal Tumour interfering with Respiration and Deglutition.*—This case is related in the *Canada Lancet*, 1880, page 302. The patient, a lady, 29 years old, had experienced difficulty in respiration for a year. The least exertion brought on severe attacks of dyspnoea, and attempts to swallow either solid or liquid food caused violent fits of coughing and strangulation. A large, smooth, regular, and unyielding mass was discovered by the laryngoscope, filling the entire posterior part of the laryngeal space below the vocal cords. The left cord was fixed near the median line, and drawn downwards; the right moved freely. Tracheotomy was performed, and the thyroid cartilage divided in the middle line, but the growth, which was thought to be an enchondroma, was found immovably connected by a broad base, with the cartilage (*sic*) of the left side: and as its removal would have necessitated the excision of the entire larynx, the operation was abandoned. The tracheotomy tube was left in, and the patient could now swallow with comfort, and breathe easily.

6. *Lange on a Case of Extirpation of the Larynx.*—Dr. Lange contributes the following case (*Archives of Laryngology*, vol. i, No. 1, 1880). Mr. A., aged 74, had complained for two years of hoarseness, and of cough caused by portions of food passing into the larynx; during that time a tumour had been discovered growing apparently from the right ventricle, and tracheotomy had been performed on account of dyspnoea. During the last six months the symptoms had got much worse, the patient could only swallow fluids with difficulty, and was in a state of great emaciation and constant suffering. When Dr. Lange saw him a hard, somewhat elastic tumour could be felt between the cannula and the hyoid bone; it was about the size of a medium orange, and apparently involved the larynx, and it was most prominent on the right side. After the removal of the cannula a greyish mulberry-like mass, of a moderately firm consistency, protruded from above. It was difficult to precisely locate the point where the operation had been performed, but Dr. Lange thought at the crico-thyroid space. As an œsophageal tube could be introduced into the mouth of the œsophagus without difficulty, and as the main part of the growth grew from the anterior part of the larynx, Dr. Lange concluded that the obstruction to the passage of food was caused by the compression exerted by the tumour, and that the walls of the œsophagus were probably free. The patient was placed under the influence of chloroform inhaled through the cannula, and was brought into Rose's modified position, as recommended by Haas. An incision was made from the hyoid bone down to the cannula, and from the upper edge of this incision two cross cuts towards the border of the sterno-cleido-mastoid muscles. The flaps, thus formed, were loosened to below the superficial fascia, then the cannula was removed, and the incision prolonged below it to the

manubrium sterni; the existing opening was enlarged by cutting out the cicatricial tissue, and by biting out the cartilage by means of Hoffmann's bone-scissors, and a rubber cannula, surrounded with tinder to act as a tampon, was then introduced into the trachea. The upper part of the cannula broke while attempting to introduce it, and in future cases the author advises against the use of a rubber cannula, and in favour of the lead-pipe or Foulis' tube, but surrounded with tinder. The external muscles of the larynx and hyoid bone were grown together with the tumour, and their upper part looked rather suspicious. They were all detached, together with the growth. After the front and lateral part of the tumour had been laid bare, the main difficulty lay in detaching the tumour from the hyoid bone, and from the sheath of the great vessels on the right side with which it was intimately connected. The tumour had grown up behind the hyoid bone towards the root of the tongue, and the right horn of the hyoid was removed, because the tumour had become attached to it. The larynx, by means of a strong hook, was now pulled forward and separated from the œsophagus; finally being cut from the air-tube about half-an-inch below the opening for the cannula. The anterior wall of the œsophagus was involved in the tumour, so that a great part of it had to be removed by a cuneiform excision. The lumen of the tube was re-established by uniting the cut borders with catgut sutures. Two long drainage-tubes were placed along the large vessels, and a horseshoe-like catgut drain around the trachea and all ends brought outwards upon the manubrium sterni. The borders of the longitudinal incision were united by three sutures. A soft dressing of salicylic cotton pressed the integument against the anterior wall of the œsophagus. The abundant secretion of mucus and saliva, however, ran down the flaps, and prevented their adhesion; the sutures were therefore removed. The loose connective tissue became necrotic, the united border of the œsophagus sloughed, and the defect in the œsophagus became still larger. The patient was fed by means of a Paterson's catheter. The general condition was good until the sixth day, when there were symptoms of blood-poisoning. With careful attention to the drainage of the wound, and with free use of stimulants the patient gradually recovered. In the fifth week cicatrization was sufficiently advanced to allow the application of an artificial larynx. Six weeks after the first operation Dr. Lange removed the whole body of the hyoid bone, as at this spot there was no tendency to heal. In three months the patient was well enough to travel home; and five months after the operation there was no trace of recurrence of the tumour, one fistula only remaining. The artificial larynx was but little used on account of the discomfort attending its insertion. Dr. Lange thinks that in future he can avoid the dangers and complications which arise from the removal of a part of the œsophagus by making a flap, having its base near the hyoid bone, and the inferior border of which is to be united to the anterior wall of the œsophagus. In this way the cavity of the pharynx may be closed; a secondary and slight operation would be necessary in order to establish an opening for the cannula. A permanent rubber tube would have to be introduced through one of the upper angles for feeding, for the first few times after the operation. The author draws especial attention to the tinder tampon-cannula which he used. If several folds of tinder are wound around a cannula, and it be placed in a test-tube of suitable

size, even loosely, and a stream of water directed upon the back of the cannula, hardly a drop runs into the glass; whereas sponge, even tightly impacted, allows the water to run down freely. The tinder, moreover, does not irritate so much as a common sponge. It is cut in such a shape that the cannula is thickened to an elliptic form. To prevent the cannula slipping down, a little above the tinder cover a prominent ring of tinder is fastened, which rests upon the edge of the tracheal wound. A frequent change of tinder is necessary on account of the fetor.

7. *Smith on a Case of Laryngeal Phthisis.*—The patient, aged 45 years, had died of phthisis; the lungs and larynx were shown at the Pathological Society of Dublin (*British Medical Journal*, vol. i, 1880, page 701). The epiglottis was eroded on the right side, and covered by some yellow nodules. The cartilages were necrosed; the vocal cords were scarcely recognisable. There was no evidence of syphilis.

8. *Thompson on the Condition of the Viscera in a Case of Sudden Death, after Tracheotomy for Croup.*—The parts were shown before the Pathological Society of Dublin (*British Medical Journal*, vol. i, 1880, May 8). The larynx was so blocked with false membranes, that all traces of the vocal cords were lost; the membranes also extended into the pharynx. A free clot was found in the right auricle, and continued into the right ventricle, and into the pulmonary artery. In the discussion on the specimen, it was suggested that the sudden death was due to granular degeneration of the heart.

9. *Pepper on the Local Treatment of Tubercular Laryngitis.*—When ulceration exists, Dr. Pepper (*New York Medical Record*, July 10, 1880), recommends the application of strong nitric acid, and for œdema, astringent lotions. The following formula has been found of particular value as a gargle. *R.* tincturæ benzoini comp., ʒij; glycerini, ʒss; aquæ, ʒiv. To relieve the sense of fulness, lozenges of hæmatoxylin, krameria, or tannic acid, are prescribed.

11. *Packard on Contusion over the Larynx, etc.*—A labourer, aged 54 years (*Archives of Laryngology*, No. 1, vol. i, 1880), received a kick in the throat. An hour afterwards there were emphysema about the larynx and swelling of the neck, extending as far as the second rib, pain on moving the neck, and tenderness on pressure. The patient was constantly spitting blood, and experienced great difficulty in swallowing. The voice was husky and almost extinct. On laryngoscopic examination, nothing could be seen except general swelling and congestion of all the tissues. A few days later, however, the ventricular bands and ary-epiglottic folds appeared much swollen, probably from effused blood. The patient gradually improved, and two months afterwards was discharged, although unable to speak in his natural voice. The injury to the larynx was probably a rupture of a vessel beneath the mucous membrane, from which the blood was copiously effused. The membrane itself must also have been ruptured, and thus the mucus was tinged with blood, while air found its way into the submucous areolar tissue, to an extent limited by the attachments of the fasciæ of the neck. There was no evidence of fracture of the cartilage, either in alteration in shape or in crepitus.

12. *Franks on a Chicken-bone in the Larynx.*—Mr. K. Franks exhibited, at the Surgical Society of Dublin (report in *British Medical Journal*, April

17. 1880), a triangular piece of the breast-bone of a chicken, which had entered the larynx, while the man was sipping hot soup, and had there remained impacted for 23 days. It was entangled in the left aryteno-epiglottidean fold. Mr. Franks failed to remove it with Mackenzie's forceps; he therefore determined on laryngotomy; but, whilst the anæsthetic was being administered, it was expelled in a fit of vomiting. It measured $1\frac{3}{8}$ inches \times $1\frac{1}{8}$ inches.

13. *Risley on Warty Growth Pendent to the Uvula.*—The patient, aged 32 (*Philadelphia Medical Times*, June 19th, 1880), came under examination for disease of the left ear. The uvula was found greatly elongated, and its extremity hidden below the base of the tongue. It was brought into view by a blunt hook, and a large papillomatous growth discovered pendent to its extremity. The uvula itself was $3\frac{1}{2}$ centimètres in length, and correspondingly reduced in thickness. The growth, which was of a greyish-white colour, measured 1 centimètre in its broadest horizontal, and 8 millimètres in its vertical diameter, and presented the characteristic papillary divisions. The patient had experienced no inconvenience, not even a cough, and was not aware that the growth existed. His voice was hoarse and deep, but noticeably improved during the time he was under treatment.

15. *Cruveillier on Extirpation of a Naso-pharyngeal Polypus by the Palatine Method.*—This case was communicated at the Société de Chirurgie de Paris (*Bulletin et Mémoires*, April 5th, 1880). A young man aged 17 had suffered for over two years from obstruction of, and frequent hæmorrhage from the right nostril. On examination, a tumour was found occluding the right nostril and filling the posterior part of the nasal fossæ, where it could be felt by introducing the finger behind the soft palate. The palatine arch appeared convex. There was no deformity of the face, nor protrusion of the right eye, but there was some slight epiphora. The palate was divided in the middle line, exposing the polypus, which was then seized by the forceps and extracted. The hæmorrhage was so excessive that the patient fainted. The polypus was very large, and presented two distinct lobes; one was attached to the pterygoid plate of the sphenoid, the other to the basilar process of the occipital bone, which was so eroded that it was feared the tumour had penetrated into the interior of the skull. The patient progressed steadily, and was discharged a month and a half afterwards. The gap in the palate, which extended almost as far forwards as the anterior palatine foramen was closed about a year after the operation by Fergusson's method. Owing to the constant flow of mucus down the back of the throat, which had existed since the extraction of the tumour, the union did not take place by the first intention; but, by bringing the granulating surfaces as much into contact as possible, and filling up the gap that remained with the uvula, a restoration of the palate was finally accomplished.

18. *Delavan on a case of Foreign body in the Posterior Nares.*—Dr. Bryson Delavan publishes notes of this case in the *Archives of Laryngology*, vol. i, page 69, 1880. A girl aged 11, had suffered for nine years from severe ozæna without being able to get relief. The right nasal cavity was found completely occluded, its posterior third being filled with what appeared to be a mass of crusts and suppurating tissue; a probe, passed through this mass, met with an opposing body, which, after careful manipulation with a probe bent in shape of a hook, was

brought to light, and found to be a shoe-button thickly encrusted with calcareous deposit. A week afterwards the offensive discharge had ceased and the ulceration was completely healed.

19. *Wagner on a case of Acute Idiopathic Perichondritis of the Nasal Septum, terminating in Abscess.*—This case is reported in the *Archives of Laryngology*, vol. i, No. 1, 1880. A young actress complained of a circumscribed hardness to the left and near the junction of the cartilaginous with the bony septum of the nose. Internally the mucous membrane was congested. Hot fomentations were prescribed. The next day there was immense swelling and œdema of the nose, which was of a dark dusky colour, accompanied by much pain in the frontal sinuses and brow. The swelling increased and both nostrils became occluded. There was some delirium. Temperature, 105. Pulse, 145. Free incision was made into the septum through the left nostril; escape of large quantity of pus followed: incision was afterwards made into the right side, pus also escaping. After some hours the incisions which had closed were reopened and more pus was let out. The abscess had apparently formed in the body of the cartilage; a fistula leading to a cavity remained for some weeks. The pus which formed in this cavity was emptied daily by a small syringe and washed out with carbolic acid. A compress of cotton was introduced into the nostrils to aid in closing the cavity. Dr. Wagner remarks that abscesses of the septum are generally caused by syphilis, struma, or catarrhal rhinitis. Acute idiopathic abscesses of the septum are very rare. Early and free incisions are absolutely necessary, even at the risk of destroying the outward symmetry of the nose, as a delay of a few hours may result in meningitis. W. J. WALSHAM.

REVIEWS.

Periodicals of Psychology.—*Mind*, No. xix, July 1880; *Brain*, No. x, July 1880; *Revue Philosophique*, 1880, Nos. 5, 6, and 7 (May, June, July).

THE periodicals of this quarter concerned with psychology contain, as usual, a vast mass of interesting work. To take first the English journals, we have in *Mind*, along with much logical and ethical matter, a valuable paper by Francis Galton, on 'Statistics of Mental Imagery'. The title does not fully convey the importance and interest of the paper. It appears that the author has a double task in hand. On the one side, he wishes to show how possible and even easy it is to apply the method of statistics to questions of a purely mental character; while, on the other hand, he is interested in showing how far the power of mental imagery—the power, that is to say, of calling up a visual representation or memory of a past scene—is developed in different classes of people. The results in this way are very singular, so far as he has yet ventured to state them. It seems proved, for example, that scientific men, and, in fact, all men given to hard thinking, rarely possess the power of seeing 'with the mind's eye'. They remember the facts, but they cannot recall the picture. The conclusions, however, are as yet incomplete. But the great interest of the paper is the explanation (which, it appears, was anticipated by him in the *Philosophical Magazine* for Jan. 1875) of the method by which he reduces psychological and purely introspective experiences to statistical form. For a full account

the reader must be referred to the paper itself; but the fundamental principle is the intercomparison of several series of cases. Get fifty men to state their experience in answer to any careful mental question involving introspection. The answers will be found to classify themselves easily. There will be a considerable dead level of average cases in the middle, with a certain number of more and more extreme cases beyond, both in excess and in defect. Among these Mr. Galton fixes, on mathematical grounds, certain relative points—quartile, octile, and suboctile. He then takes another series, say of fifty women or boys—there might equally be seventy or any other fairly large number—and arranges them in the same way. Finally, he compares the relative points of all the series together—*i.e.*, quartiles of excess and defect with similar quartiles, etc.—and sees at once the statistical ratio of the whole. It will be seen at once that the method is capable of indefinite extension, as, for example in the study of mental health and disease; though, at the same time, will demand a very careful and experienced hand.

Mr. Galton's paper is followed in the pages of *Mind* by an extraordinary but able essay, or rather the first instalment of a biological essay 'On the Unity of the Organic Individual', by Edmund Montgomery. The theme of his very acute dialectic is the relation between organic individuality and the life of the cell or other organic unit. Those of our readers who have the courage to face a hard piece of reading will find in it an important criticism of the cell-theory in general, with special reference to Mr. Darwin's Pangenesis, Mr. Herbert Spencer's Polarigenesis, and Haeckel's Perigenesis, all of which Mr. Montgomery rejects. His own theory is reserved for a future number. The remaining papers, of which the best is that by Mr. Sorley, on 'Jewish Mediæval Philosophy and Spinoza', are on subjects beyond our special sphere, excepting, perhaps a couple of pages by Mr. Sully, containing notes of another recent series of investigations as to the mental development of children, just published by Professor Preyer, of Vienna.

In *Brain* the most important paper of the quarter is a tentative contribution 'On Right or Left-sided Spasm', by Dr. Hughlings Jackson, concerning the classification of the various forms of nervous discharge now massed under the name of true epilepsy. Condensing a vast series of experiences into a modest and very undogmatic tract, he throws out the suggestion that these attacks should be carefully observed with reference to the nature both of the 'warnings' which indicate the character and seat of the first discharge, and of the after-action, which he believes will corroborate and throw light on the beginning. It is the opening of a line of research, of which doubtless we shall hear more. The following paper is a rather confused dissertation on 'Left-handedness' by Dr. Ireland, *à propos* of Mr. Charles Reade's late letters on the subject; but we cannot say that the question is advancing as rapidly as might be expected towards a scientific treatment. There is also a careful pathological study of 'Nystagmus' by Mr. Oglesby of Leeds, and another 'On Muscular Spasms known as Tendon-reflex', by Augustus Waller, M.B., with special bearings upon the tests of muscular irritability. The reviews are of more than usual interest. The first editor, Dr. Bucknill, devotes considerable space to a kindly notice of Dr. Bastian's 'Brain as an Organ of Mind', and Dr. F. L. Benham criticises at equal length 'Mind in the Lower Animals', by Dr. Lauder Lindsay. The latter review, on the whole, is

hostile, for the critic finds in the book, or rather in the digest of notes which it contains, a scientific vice too frequent in enquiries of the same kind—namely, a violent and constant *petitio principii*. 'If all such interpretations were admissible', he says, 'not unjustly, of some of Dr. Lindsay's animal stories, 'one would be almost persuaded of the possible truth of Æsop's Fables!'

In the last three numbers of the *Revue Philosophique*, there is, as always, a vast and various store of interesting matter. Of more specially medical import we may refer our readers in the May number to the editor (M. Th. Ribot) on 'Memory as a Biological Fact'—a very interesting study—and to the analysis of Mantegazza's recent book on the 'Physiology of Pain', or rather on the physiological results of pain. In the number for June, the most interesting paper by far will be found to be the concluding section of M. Delboeuf's remarkable study on 'Sleep and Dreams', a piece of work from a psychological point of view nearly perfect. There is also an interesting note of an essay by Carl Vogt, on the 'Physiology of Writing'—a novel text, but one that has important bearings. The number for July, though it contains valuable papers, has less of distinctly medical value. Our readers will, however, find much good work in M. Paulhan's able paper on 'Personality' and in the notes of M. Lavine on 'Determinism from the point of view of History and Geography', as well as a short sketch of Italian speculations as to 'La Condizione fisica della Coscienza' by MM. Tocco and Herzen, of Florence.

B. F. C. C.

Antiseptic Surgery: an Address delivered at St. Thomas's Hospital, with the subsequent Debate. To which are added a short Statement of the Theory of the Antiseptic Method, a Description of the Materials employed in carrying it out, and some Applications of the Method to Operations and Injuries in Different Regions of the Body, and to Wounds received in War. By WILLIAM MAC CORMAC, M.A., F.R.C.S.E. and I. (M. Ch. Hon. Caus.), Surgeon, and Lecturer on Surgery, St. Thomas's Hospital, Consulting Surgeon to the French Hospital. London: Smith, Elder and Co. 1880.

A treatise on Antiseptic Surgery is extremely welcome at this time; the present volume has been carefully prepared, and is well printed and illustrated. The opening chapter is the address on Antiseptic Surgery delivered by Mr. MacCormac to the South London Branch of the British Medical Association. This is followed by the speeches of the various surgeons who afterwards gave expression to their ideas on its efficacy; all have been corrected, and are printed in *extenso*, as it was thought 'that in the interest of surgical history a record in a separate form of the various facts and opinions expressed by the different speakers would be valuable.'

The second chapter deals with the Antiseptic Theory. It is pointed out that where putrefaction occurs there bacteria abound, 'but whether as cause or as effect is the still disputed question in the minds of many'; the author, however, accepts the germ-theory until something better is proposed, as it best explains many facts observed. With regard to Ranke's experiments, which were intended to show that organisms might be developed under antiseptic dressings, the more recent and the more exact ones of Watson Cheyne are quoted, which prove that these organisms were not bacteria but micrococci,

giving rise to neither local nor constitutional disturbance. These micrococci were found under old antiseptic dressings in which the acid contained in the gauze had in part been given off; they were noticed first at the edges of the dressing, and gradually worked towards the wound. Chapter iii considers 'Antiseptic Material'; carbolic, salicylic, and boracic acids, thymol, chloride of zinc, and acetate of alumina are all successively included. The last-named is stated to have been largely employed by Professor Maas of Freiburg, and is described as being cheap, unirritating, and non-poisonous. For spray purposes, a $2\frac{1}{2}$ per cent. solution is used. The amount of secretion from the wound, following its use, is said to be small.

The important subject of preparation of gauze is described at length. In addition to the plan recommended by Mr. Lister, the modifications of Bruns and Küster, as being cheaper and more easily prepared, but not so pleasant to use, owing to their containing castor-oil or glycerine, are mentioned. On the question of carbolic acid poisoning, Mr. Mac Cormac suggests that some fatal cases attributed to shock after severe operations may partly be due to this cause. We do not find any directions given for the treatment of eczema and erythema excited by carbolic acid, short of a discontinuance of the dressing.

Dr. Bardeleben's method, an untrustworthy one we think, of using jute pads that have been previously soaked in a carbolic solution instead of the gauze, is described, but no opinion is expressed as to its efficacy. The other appliances used in Listerism, including the various kinds of sutures, of drainage-tubes, and the preparation of catgut, are discussed. Spray-producers, steam and otherwise, a subject which may openly be avowed to be the *bête noir* of antiseptic surgery, are fully considered. It is suggested that the spray 'may act mechanically as well as chemically, the septic atmosphere being displaced by the volume of aseptic vapour and fluid issuing from the nozzle'.

Under the heading 'Antiseptic Practice', one hundred pages are devoted to the application of Listerism to various cases, notably compound fractures, osteotomy, psoas abscess, arthrotomy, and ovariectomy. This, for practical purposes, is a valuable part of the volume, as illustrations showing the application of the dressings in difficult situations are given. A description of Esmarch's 'Erster Verband' concludes the work. This was invented for soldiers to carry themselves into battle, so that their wounds may be almost directly antiseptised. Each packet, which can be stowed in very little space, consists of two bandages, one triangular, made of cotton, the other composed of gauze, and two antiseptic balls of salicylic jute, with some gauze and oiled paper. We have no doubt Mr. Mac Cormac's volume will receive every attention from those practising antiseptic surgery; the want of a reliable text-book on the subject can be said to exist no longer.

THOMAS F. CHAVASSE, M.D.

RECENT GERMAN BOOKS.

- Knodt, E., Die Vivisektion vor d. Forum d. Logik u. Moral. gr. 8. Leipzig, H. Voigt. 60 Mark.
 Kotelmann, L., Die Vivisektionsfrage. Vortrag. 8. Hamburg, Gräflener. 50 Mark.
 Krause, C. F. Th., Handbuch d. menschl. Anatomie. 3. Aufl. bearb. v. W. Krause. 3 Bd. M. Holzsch. gr. 8. Hannover, Hahn. 8 Mark.

Lehmann, L., Die chronischen Neurosen als klinische Objekte in Oeynhaus. M. i Taf. gr. 8. Bohn, Cohen & Sohn. Mark 1.

Neumann, J., Lehrbuch d. Hautkrankheiten. M. i Taf. u. 108 Holzsch. gr. 8. Wien, Braumüller. 16 Mark.

NEW INVENTIONS.

MCDUGALL'S PATENT FLOUR.

There are, perhaps, few dietetic substances in regard to which scientific and physiological knowledge may with greater advantage be utilised than in the numerous articles of food produced from flour. Bread made from the unsifted meal of wheat, or from ordinary fine white flour to which bran has been added, has long been extensively recommended by medical men as more nutritious than bread made from the highest priced white flour. But, notwithstanding the recommendations of the faculty, whole meal or brown bread can scarcely be said to have gained general acceptance as an article of diet; partly because its flavour is not agreeable to all persons, and also because the mechanical irritation induced in the digestive system by the bran particles is both disagreeable and prejudicial to many. The flour, too, produced by the addition of bran to white flour has, in common with whole meal, the drawback of not being found applicable to the manufacture of pastry, puddings, cakes, and biscuits. By the rejection of the bran, however, a very important nutritious element of the wheat—the phosphatic salts—is removed; and it is for this reason we wish to call attention to a novel process by which this useful constituent is restored to fine white flour without in any degree injuring its flavour and digestibility, or impairing its appearance. The process by which these desirable objects are attained is the joint invention of Professor Horsford, of Cambridge, U.S.A., a well-known American chemist, and of Mr. McDougall, of London and Manchester, of carbolic acid fame. Besides possessing these nutritious phosphates, this flour has the advantage of being self-raising—that is to say, it does not require the addition of yeast or barm to convert it into bread. It may not here be superfluous to remind our readers that the fermentation necessary for making the dough rise is only started by the yeast or barm, and is carried on by the decomposition of part of the gluten and starch in the flour, thus lowering the nutritious qualities of the latter. Mr. McDougall's patent flour consequently possesses two great advantages in point of nutrition—the phosphates are restored to it, and it is not impoverished in the manufacture of bread by the destructive power of fermentation. It may therefore be said to contain the entire nutriment of the wheat. The self-raising property of the flour causes pastry, puddings, and cakes made from it to be far lighter than those produced from the ordinary flour, while an appreciable economy in the quantities of eggs, butter, and lard required for the preparation of these dainties is effected; and the bread, although of slightly greater specific gravity than ordinary bread, is more digestible. Families who luxuriate in home-made bread and rolls will find considerable saving of labour and anxiety by using McDougall's flour, as there is no fear of spoiling the batch by the uncertainty attending the use of yeast. This flour requires nothing but mixing with the proper quantity of salt and water, and baking in a quick oven, to pro-

duce bread resembling the best 'home-made' or 'farm-house' variety of the staff of life; but those, however, who prefer the flavour of ordinary fermented bread can add half the usual quantity of yeast. A pamphlet giving fuller details of the process can be obtained from Messrs. McDougall Brothers, at their offices, at 10, Mark Lane, London, E.C., and at Manchester.

LIEBIG'S LEGUMINOUS COCOA.

This preparation of cocoa is formed by an admixture of the leguminose prepared by Baron von Liebig with pure cocoa. It comes to us with good German recommendations, and testimonials of its dietetic value for nursing women, in whom it is found to augment the secretion of milk, and for feeble and badly developed children, suffering from scrofula, rachitis, and anæmia.

It has been found equally satisfactory in acute and chronic disturbances of digestion and of diseases of the stomach and bowels in adults. It is much used in Germany as an article of general diet, and is found to be much liked by growing girls in delicate health, to whom a light and digestible form of nourishment is of great importance, and by children going to school, who require a nourishing and satisfactory meal. These results are by no means astonishing, when we consider the elements of which the two ingredients of leguminous cocoa are made up; little else is required to form a perfect diet. An analysis of this cocoa by Mr. Wyner, the well-known analytical chemist, shows the amount of albuminoid substances in the cocoa to be largely in excess of that contained in any preparation known to us, whilst the percentage of fat is comparatively smaller. These are important desiderata in dietetic preparations of cocoa.

BELLIS' SUN-DRIED TURTLE.

There are few things in the way of invalid luxuries more highly appreciated, or more frequently resorted to in severe cases of illness in various forms of dyspepsia, anorexia, or during convalescence from existing diseases, than turtle-soup. For a long time this was a costly, and therefore to many an almost unobtainable luxury. The introduction, however, of sun-dried turtle has brought turtle soup within the reach of the many. It is important that the material should be obtained of the best quality, and selected from the genuine West India green turtle. The negroes have a habit of making up quantities of so-called dry turtle from dead turtle (angels). This material is now in the market, and it is worse than valueless, although it is produced in a manner to imitate the best kind of turtle, and is obtainable of unscrupulous dealers at a nominal price. The packages which bear Bellis' brand are guaranteed to be of the finest quality, and we can say practically that they deserve their character. It is a hint worth having in using this turtle, that to obtain the best results the dry turtle should be soaked for not less than two days, better three days, the water being changed each day, and the turtle itself lightly rubbed with a brush, to remove a superficial surface, which is sometimes slightly altered in character. Turtle soup made from dry turtle with these precautions is not distinguishable from the best live turtle; while it is, of course, very considerably lower in cost.

HORSFORD'S ACID PHOSPHATE.

Messrs. McDougall Brothers, of London and Manchester, have brought under the notice of the medical profession and the public the Acid Phosphate introduced by Professor Horsford, of Harvard University, Cambridge, U.S.A. The value of the acid phosphates as therapeutic agents is thoroughly well recognised, and it is alleged of this special preparation that it is extremely useful in some forms of dyspepsia, in nervous exhaustion, in wakefulness, and in certain affections of the bladder and kidneys. It is also stated to have been useful in preventing or alleviating sea-sickness. The acid phosphate is now prescribed by nearly all physicians in the United States, and it has gained their high recommendation. The way in which it first came into use there is somewhat curious. It had been noticed for several years that a form of liquid acid phosphate, employed as a constituent in the manufacture of other phosphate preparations, was used by the workmen and their families as a medicinal agent. Also, that when tired or exhausted, a little of the acid phosphate in water acted as a restorative in a marked degree. Through accident or curiosity at first, and afterwards from its observed effects, they had been led to make use of it to such an extent that it was assumed to be a specific in the disorders already named. Physicians in the neighbourhood, acting upon these intimations, prescribed the acid phosphate liquor with marked success. Their example is said to have been followed there by the profession generally with remarkable results.

Each fluid drachm of the acid phosphate is stated to contain— $5\frac{1}{2}$ grains free phosphoric acid (PO_3), 3 grains phosphate of lime (3 CaO PO_3), $\frac{1}{2}$ grain phosphate of magnesia (3 MgO PO_3), $\frac{1}{2}$ grain phosphate of iron ($\text{Fe}_2 \text{O}_3 \text{ PO}_3$), $\frac{1}{4}$ grain phosphate of potash (3 KO PO_3)—total amount of phosphoric acid in one fluid drachm, free and combined, 7 grains; and it is asserted not to contain any pyrophosphate or meta-phosphate of any base whatever. The acid phosphate is employed by many physicians as a menstruum for the administration of such alkaloids as morphine, quinine, and other organic bases which are usually exhibited in acid combination. The admixture with pepsin has been introduced with advantage in deranged digestion, and this form of preparation and that of admixture with milk-sugar in the form of pills are said to have proved of value. The acid phosphate is also used as a *beverage* mixed with water and sugar, and, according to the testimony of some well-known American physicians, with great advantage in nervous disorders and the exhaustion of protracted mental labour.

The acid phosphate is now under trial in twenty-five metropolitan hospitals, a fact which shows the confidence Messrs. McDougall and Horsford have in the efficacy of their preparation and their desire to have it properly tested.

MISCELLANY.

TIGHT LACING.—Dr. Dyce Duckworth says, in the *Practitioner*, I find many cases of dyspepsia in women yield quickly to the use of proper stays. Again and again I have known chronic vomiting in young girls to be due solely to tight stays. Palpitation and dyspnoea, not due to anæmia, are frequently caused by bad stays. The worst

cases naturally occur in young women who are inclined to *embonpoint*, and whether this be constitutional or aggravated, as is that condition by anemia, the obese tendency commonly both adds to the compression and gives cause to the wearer to increase her troubles in the efforts to retain (what she conceives to be) shapely proportions.

THE WITHDRAWAL OF GOLD.—Dr. Farrar makes a curious and astounding calculation. He estimates that not less than a half of ton of pure gold, worth half a million of dollars, is annually packed into people's teeth in the United States. At this rate, all the gold in circulation will be buried in the earth in three hundred years. He also calculates that three millions of artificial teeth are annually supplied, and that only one person in eight has sound teeth.

A SUBSTITUTE FOR COD-LIVER OIL.—In the case of children who refuse absolutely to take cod-liver oil, Dr. Lamarque (*La France Méd.*, 1880, p. 279) recommends the following formula: R Glycerini, ℥x ; tinct. iodini, ℥xxx ; potassii iodidi, gr. ss.—M. A dessertspoonful a quarter of an hour before each meal. Under the use of this remedy the appetite returns, and constipation, when it exists, ceases absolutely. In the case of delicate individuals this formula may be modified as follows: R Glycerini, ℥viij ; syripi rubi, ℥xiv ; tinct. iodini, ℥xxx ; potassii iodidi, gr. ss.—M.

CONSULTATION.—Concerning baldness, Professor Fournier says there is nothing ridiculous or malformed about it. It confers upon the physiognomy an expression of wisdom, experience, and venerability. It adapts itself marvellously to certain heads which would be deformed by a wig, and is the severe beauty represented in sculpture by the classic head of *Æschylus*.

BEES AND HONEY OF CYPRUS.—One of the most celebrated products of the historical island of Cyprus, which has lately passed under British sovereignty, is honey. The Cyprian bees are a special race, which never seems to have been deteriorated by crossing with those of the continent. The honey of Cyprus was already renowned in ancient times, and European bee-cultivators have at all times been eager to improve their own hives by importing queen-bees from this island. Since the beginning of March of the present year, two prominent American apiarists—Mr. D. A. Jones, of Canada, and Mr. Frank Benton, Instructor at the Agricultural College of Michigan—have resided in Cyprus for the purpose of introducing a rational system of bee cultivation. The former will return in a few months with 100 or 150 queen-bees, while Mr. Benton will remain for about one year longer, when he will transplant his Cyprian hives upon some American island, far enough distant from the coast to prevent access of domestic bees.

THE ORIGIN OF ANTHRAX.—Recent researches by M. Pasteur appear to throw considerable light on the origin of anthrax, or splenic fever, and allied diseases, which attack cattle, sheep, etc. When an animal dies of anthrax it is not uncommonly buried on the spot. The conditions of putrefaction prove fatal to the small parasitic organism, or bacteridium, which is abundant in the blood at death. The gas given off causes it to break up into dead and harmless granulations. But before this can occur not a little of the blood and humours of the body has escaped into the ground about the carcass, and here the parasite is in an aerated medium favourable to the formation of germs. These corpuscular germs M. Pasteur has found in the soil, in a state of latent life, months and years after the carcass was buried; and by inoculation of guinea pigs with them, has produced anthrax and death. Now, it is specially notable that such germs have been met with in the earth at the surface above the place of burial, as well as near the body. The question arises, How came they there? And it would appear that earthworms are the agents of conveyance. In the small earth-cylinders, of fine particles, which these creatures bring to the surface and deposit after the dews of morning or after rain, one finds, besides a host of other germs, the germs of anthrax. (The same process was proved also by direct experiment; worms kept in ground with which bacteridium spores had been mixed

were killed after a few days, and many of the spores were found in the earth-cylinders in their intestines.) The dust of this earth, after the cylinders have been disaggregated by rain, gets blown about on the neighbouring plants, and the animals eating these thus receive the germs into their system. It is suggested that possibly other diseased germs, not less harmless to worms, but ready to cause disease in the proper animals, may be in like manner conveyed to the surface in cemeteries. This would furnish a fresh argument for cremation. The practical inference as to anthrax is, that animals which have died of this should not be buried in fields devoted to crops or pasturage, but (wherever possible) in sandy, calcareous ground, poor and dry—unsuitable, in a word, for worms.

THE SECOND INTERNATIONAL OTOLOGICAL CONGRESS AT MILAN.—The meetings of this Congress will take place at Vierlo Santo Spinto, No. 1, from the 6th to the 9th September 1880. On the 5th September there will be a *réunion* at half-past seven p.m., at Biffi's Galleria Vittoria Emanuele. On Monday, Sept. 6, the first meeting will be held, commencing at nine a.m., by Sig. Voltolini, the *interim* president, and by a member of the local committee. The actual president and two secretaries will be elected, who, with two members also to be elected, will form the publication committee. This committee will be entrusted with the editing and publishing of the reports of the meetings, which will be sent to every member of the Congress. Every member, when entering his name on the list of those present, will pay twenty francs to form a fund for defraying the printing and other expenses. In order to obtain a prompt and correct publication of the reports of the meetings, every speaker is requested, after having terminated his communication, to deposit a copy with the publication committee. After the election, the reading of papers will commence. There will be a dinner at Biffi's at 6.30 p.m. Tuesday, Sept. 7, meeting at 9 a.m. Announcement of the time and place where the next Otolological Congress will be held. Election of the provisional committee. Communications. In the afternoon there will be an excursion to Pavia. Wednesday, Sept. 8, Meeting at 9 a.m. Communications. Banquet at Biffi's, 6.30 p.m. Thursday, Sept. 9, closing meeting at 9 a.m. In the afternoon there will be an excursion to some locality not yet fixed upon. Papers may be read in any language the writer prefers. Discussions may take place in French, German, or English. If the speaker does not know either of these languages, he can speak in his own, and his speech will be translated by another member. Notices of the following communications have been received: Professor Voltolini, of Breslau: On the Anatomic-Pathological Examination of the Organ of Hearing, of the Labyrinth in particular, with Demonstrations. 2. Professor Politzer of Vienna: (a) Results of the Anatomic-Pathological Examination of the Labyrinth; (b) Experiments on Paraculis Willisii. 3. M. Löwenberg, Paris: Why do certain Deaf Persons keep the Mouth partly open? 4. Professor Moos, Heidelberg: (a) The Oral Diseases of Mechanics and Railway Stokers entailing Dangers on Society; (b) Rare Case of Wound of the left Side of the Cranium by a Sharp Instrument; Temporary Irritation of the Left Ocular-motor and Pneumogastric Nerves; Permanent Paralysis of the Left Facial and Acoustic Nerves. 5. Professors Moos and Steinbrügge, Heidelberg: Demonstration of a Preparation of Nervous Atrophy of the first Orbital Convolution; its Physiological and Pathological Value. 6. M. Menière, Paris: (a) On the Treatment of Chronic Otorrhœa; (b) On the Means employed for the Dilatation of the Eustachian Tube; (c) Some Reflections on Menière's Disease. (7.) Prof. Hartmann, Berlin: (a) On Deaf-Mutism; (b) On the Function of the Velum Palati. (8.) Signor Grazi, Florence: Demonstration of a New Tympanome. (9.) M. E. Fournie, Paris: Study on the Propagation of Sonorous Waves towards the Auditory Nerve; Function of the Eustachian Tube. Notices of Papers to be read will be received up to August 15 by Prof. Moos, Heidelberg; and from that time up to the opening of the Congress by Dr. Sapolini, Palazzo Reale, Milan.

The London Medical Record.

MEDICAL QUALIFICATIONS IN GREAT BRITAIN AND IRELAND.

THE number of examining bodies in the United Kingdom which grant degrees and diplomas capable of registration under the Medical Act of 1858 is nineteen; and the registrable qualifications obtainable from them amount to fifty-seven. They are as follows.

1. *Royal College of Physicians of London*: Diplomas of Licentiate, Member, and Fellow.
 2. *Royal College of Surgeons of England*: Diplomas of Member, Fellow, and Licentiate in Midwifery.
 3. *Apothecaries' Society of London*: Licence.
 4. *University of Oxford*: Degrees of Bachelor and Doctor of Medicine.
 5. *University of Cambridge*: Degrees of Bachelor and Doctor of Medicine, and Master in Surgery.
 6. *University of London*: Degrees of Bachelor of Medicine, Doctor of Medicine, Bachelor of Surgery, and Master in Surgery.
 7. *University of Durham*: Licences in Medicine and in Surgery; Degrees of Bachelor of Medicine, Doctor of Medicine, Bachelor of Surgery, and Master in Surgery.
 8. *Royal College of Physicians of Edinburgh*: Diplomas of Licentiate, Member, and Fellow.
 9. *Royal College of Surgeons of Edinburgh*: Diplomas of Licentiate and Fellow.
 10. *Faculty of Physicians and Surgeons of Glasgow*: Diplomas of Licentiate and Fellow.
 11. *University of Aberdeen*: Degrees of Bachelor of Medicine, Doctor of Medicine, and Master in Surgery.
 12. *University of Edinburgh*: Degrees of Bachelor of Medicine, Doctor of Medicine, and Master in Surgery.
 13. *University of Glasgow*: Degrees of Bachelor of Medicine, Doctor of Medicine, and Master in Surgery.
 14. *University of St. Andrews*: Degrees of Bachelor of Medicine, Doctor of Medicine, and Master in Surgery.
 15. *King and Queen's College of Physicians in Ireland*: Diplomas of Member, Licentiate, Fellow, and Licentiate in Midwifery.
 16. *Royal College of Surgeons of Ireland*: Diplomas of Licentiate and Fellow.
 17. *Apothecaries' Hall of Ireland*: Licence.
 18. *University of Dublin*: Licences in Medicine and in Surgery; Degrees of Bachelor of Medicine, Doctor of Medicine, Bachelor in Surgery, Master in Surgery.
 19. *Queen's University in Ireland*: Degrees of Doctor of Medicine and Master in Surgery; and Licence in Surgery.
- In addition, the Royal Colleges of Surgeons grant licences in Dental Surgery, which are registrable under the Dentists' Act.

Certificates and diplomas in State Medicine and

Public Health (which at present are not registrable) are conferred after examination by the Universities of Cambridge, London, Durham, Edinburgh, Glasgow, and Dublin; and by the Royal College of Physicians in Edinburgh.

The following is a general summary of the conditions required on the part of candidates for examination; but, for further details, our readers must consult the regulations issued yearly in the Students' numbers of our contemporaries; or apply to the officers of the respective Universities, Colleges, and Halls.

The regulations of the Examining Bodies are, with very few exceptions, framed in accordance with the Resolutions and Recommendations of the General Medical Council.

Every medical student is required to be registered at the office of the General Medical Council; prior to which he must have passed an examination in subjects of general education. As evidence of this are recognised:—1. The possession of a degree in Arts of an University of the United Kingdom or of the Colonies, or of some University recognised by the Medical Council; 2. A certificate of having passed an examination in subjects of general education conducted by some one or other of the educational bodies, a list of which is given with the 'Recommendations of the General Medical Council.' The Medical Council recommends that no such certificate should be accepted by any of the licensing boards, unless it testify that the candidate has been examined in the following subjects: 1. The English language, including Grammar and Composition; 2. Arithmetic, including Vulgar and Decimal Fractions, and Algebra, including Simple Equations; 3. Geometry—the first two books of Euclid, or the substance thereof; 4. Latin, including Translation and Grammar; 5. One of the following subjects at the option of the candidate: Greek; French; German; Elementary Mechanics of Solids or Fluids, meaning thereby Mechanics, Hydrostatics, Pneumatics, and Hydraulics. [On and after January 1, 1882, the following subjects will be required: 1. English Language, including Grammar and Composition; 2. English History; 3. Modern Geography; 4. Latin, including Translation from the Original, and Grammar; 5. Elements of Mathematics, comprising (a) Arithmetic, including Vulgar and Decimal Fractions; (b) Algebra, including Simple Equations; (c) Geometry, including the first two books of Euclid, or the subjects thereof; 6. Elementary Mechanics of Solids and Fluids, comprising the Elements of Statics, Dynamics, and Hydrostatics (this subject may be passed either as preliminary, or before, or at the first professional examination); 7. One of the following optional subjects: (a) Greek; (b) French; (c) German; (d) Italian; (e) Any other modern language; (f) Logic; (g) Botany; (h) Elementary Chemistry.] The preliminary examination having been passed, the student should at once register, as the commencement of the course of professional study is not recognised as dating fifteen days earlier than the date of registration. Forms of such registration are supplied by the licensing bodies and at the schools and hospitals.

After passing the preliminary examination, the student may commence his medical education in one of the following ways (according to the regulations of the Licensing body with which he intends to become connected): 1. By attendance for one year on the practice of a provincial hospital or other

public institution recognised for this purpose; 2. As the pupil, for one year, of a legally qualified surgeon, holding sufficient public appointments to afford such opportunities of practical instruction as shall be satisfactory to the authorities; 3. By entering at once at a recognised medical school.

The minimum period of medical study required is forty-five months from the date of registration as a student, of which time at least two years and a half must be passed at a recognised medical school. For the degrees of the Universities (except that of London) the candidate is required to spend a portion of the time of medical study at the University which grants the degree, or at a College in connection therewith.

To obtain a degree, diploma, or licence, two examinations at least in professional subjects must be passed. The first examination may be completed at or before the close of the second year of professional study, and embraces the following subjects: 1. Chemistry and Chemical Physics; 2. Anatomy; 3. Physiology; 4. *Materia Medica* and Pharmacy. The second or final examination, which must not be passed until or the completion of the fourth year of study, comprises:—1. Pathology (including Morbid Anatomy); 2. Medicine (including Medical Anatomy, Clinical Medicine, and Therapeutics); 3. Surgery (including Surgical Anatomy and Clinical Surgery); 4. Midwifery; 5. Forensic Medicine. This arrangement is of course subject to some variation; but the general principle of examining first in the elementary and afterwards in the practical subjects is invariably followed. Some of the examining bodies—such as the Universities in Scotland—divide the examinations into three or four parts.

INSTRUCTION IN THE MEDICAL SCHOOLS.

The medical schools in London are those of St. Bartholomew's, Charing Cross, St. George's, Guy's, the London, St. Mary's, the Middlesex, St. Thomas's, and Westminster Hospitals; and the Medical Faculties of King's and University Colleges. To these may be added the London School of Medicine for Women, with which the Royal Free Hospital is connected for the purpose of clinical instruction, and Mr. Thomas Cooke's School of Anatomy and Surgery.

In the provinces in England, there are the medical departments of Queen's College, Birmingham, Owens College, Manchester, and the Medical College of the University of Durham, at Newcastle-on-Tyne; together with medical schools at Bristol, Leeds, Liverpool, and Sheffield. The Universities of Oxford and Cambridge do not profess to give a complete education; in fact, there is no medical school at Oxford; but instruction in many branches is provided for at Cambridge.

In Scotland, the medical schools in which a complete course of professional education is given, are those attached to the Universities of Aberdeen, Edinburgh, and Glasgow, the Extra-Academical School in Edinburgh, and the Anderson's College and the Royal Infirmary School of Medicine in Glasgow.

In Ireland, the medical schools are, the School of Physic in Ireland, the School of the Royal College of Surgeons of Ireland, and the Colleges at Belfast, Cork, and Galway, in connection with the Queen's University in Ireland. There are also

several medical schools in Dublin: viz., the Carmichael College of Medicine and Surgery; the Catholic University; Dr. Steevens's Hospital and Medical College; and the Ledwich School of Anatomy, Medicine and Surgery.

For information regarding these institutions reference must, as we have already said, be made to the published prospectuses. We shall, however, endeavour to classify a part of the information therein contained under certain heads, viz., Clinical Instruction; Practical Surgery; Special Departments; Practical Physiology; Hospital Appointments; Tutorial Instruction; and Scholarships, Exhibitions, and Prizes.

CLINICAL INSTRUCTION.—At all the hospitals connected with medical schools the physicians and surgeons deliver, at stated intervals, lectures on the cases under their care, in addition to making comments during their visits to the wards or in the operating theatre. In some instances, special provision is made by the appointment of one or more of the hospital staff as clinical professors or lecturers; and in several of the hospitals a certain number of beds are specially devoted to the purpose of clinical instruction. At Guy's Hospital, forty patients are set aside in the medical wards, and are visited and their cases lectured on by the physicians in the winter, and by the assistant-physicians in the summer session: the surgeons also select cases for clinical instruction. A similar arrangement exists at the London Hospital, where two wards containing thirty beds are devoted to the express purpose of teaching clinical medicine; the cases being lectured on by the physicians in the winter, and by the physicians or assistant-physicians in the summer. Special clinical professorships, in medicine and surgery, in addition to the ordinary clinical lectures given by the physicians and surgeons, exist at the King's and University College Hospitals. In the former, the professor of clinical medicine is Dr. George Johnson, and the professors of clinical surgery are Mr. John Wood and Mr. Lister. In University College Hospital there are two special chairs, known as the 'Holme Professorships' of Clinical Medicine and Surgery. The Holme professor of clinical medicine is Dr. Wilson Fox, who delivers clinical lectures on Tuesdays and Thursdays on the significance of the general signs of disease, and on the special modes of examination, diagnosis, and treatment of individual cases. There are also two assistant teachers of clinical medicine, Dr. Gowers and Dr. Barlow, who hold classes for instruction in physical examination, the investigation of diseases of the nervous system, the examination of the urine, the use of the laryngoscope, etc. The Holme professor of clinical surgery, Mr. Christopher Heath, gives a clinical lecture once a week, and also holds a weekly clinical examination on surgical cases in the operating theatre; these examinations, while open to the whole class, being specially intended for the instruction of the senior students. Mr. Marcus Beck and Mr. A. E. Barker are assistant-professors of clinical surgery. In Cambridge, clinical instruction in medicine and surgery is given at Addenbrooke's Hospital throughout the year. At Leeds, clinical classes meet at appointed hours to receive instruction in the wards from the physicians. In the Liverpool Royal Infirmary, Dr. Glynn, one of the physicians, gives, once a week during the winter, practical instruction in clinical medicine and the methods of physical diagnosis. In the Owens College, Manchester, there is a special professorship of clinical

cal medicine, held by Dr. William Roberts. Medical and Surgical Clinical Classes are formed by the members of the hospital staff at each of the trimestral periods, commencing with October, January, and May. The instruction, which is conducted in the Manchester Royal Infirmary, consists of clinical lectures on cases, and the methodical examination of patients. Each student in turn is required, under the direction of the teacher, to examine patients, to elicit the symptoms and physical signs of the disease, to indicate the diagnosis and prognosis, to lay down the plan of treatment, and to perform the necessary manipulations when practicable. In the Infirmarys of Aberdeen, Edinburgh, and Glasgow, clinical lectures on medicine, surgery, and midwifery are delivered by the medical staff of each institution. The Universities of Edinburgh and Glasgow have special professors of Clinical Medicine and Surgery. In the medical schools of Ireland, clinical courses are given through the session.

In connection with the subject of Clinical Instruction, reference must be made to means provided at several hospitals for the special purpose of training the students in the observation of cases. At the Charing Cross Hospital, practical instruction in auscultation, in health and in disease, is given once a week by Dr. Irvine; while Dr. Houghton instructs in case-taking. In Guy's Hospital, the ward clerks (of whom 150 or more are appointed during the year) are assisted in the examination of cases and the preparation of reports by the medical and surgical registrars, who also instruct them in physical diagnosis and in chemical and microscopical investigation. Similarly, at the London Hospital, the clinical clerks and dressers are assisted by the house-physicians and house-surgeons. At several of the medical schools there are medical tutors, who instruct the students in the physical examination and systematic description of cases. The provision made at University College Hospital has been referred to above. In connection with the Owens College, classes for medical demonstration are held in the Manchester Royal Infirmary twice weekly during the summer by two of the medical officers; in which classes instruction is given in anatomy as applied to medicine, in physical and chemical examination, etc. In the University of Edinburgh, a class for instruction in clinical medicine is held in the wards of the Royal Infirmary by the clinical tutor.

PRACTICAL SURGERY.—At most of the schools, special provision is made for instruction in this important branch of medical education. The courses embrace such subjects as—the application of anatomy to surgery on the living person or the dead body; the methods of proceeding, and the manipulations necessary, in order to detect the effects of diseases and accidents; the performance of operations on the dead body; the use of surgical apparatus; the examination of diseased structures, as illustrated by preparations and recent specimens. The course of practical instruction is generally distinct from that of systematic surgery, and is in many instances given in the summer session. In the Westminster Hospital, however, besides a summer course of operative surgery, a winter course of practical surgery is given every second year, alternately with the systematic course. In the Liverpool School of Medicine, the lectures on Systematic Surgery are given thrice weekly, and there is a concurrent course of Practical Surgery twice weekly;

besides which, a course of Operative Surgery is given in the summer.

SPECIAL DEPARTMENTS.—Due provision is made for instruction in *Midwifery*, so as to enable students to meet the requirements of the examining bodies; but we do not call to mind any arrangement in any of the schools demanding special notice.

Ophthalmic Surgery is taught by lectures and observation of cases at all the London schools; each hospital receiving ophthalmic patients except the Charing Cross, the pupils of which are admitted to the practice of the Royal Westminster Ophthalmic Hospital. As far as can be gathered from the prospectuses, the material available for the practical teaching of this subject (as far as regards in-patients) is as follows: St. Bartholomew's Hospital, 26 beds; Charing Cross (Royal Westminster Ophthalmic Hospital), 50 beds; Guy's Hospital, 50 beds (also about 2,500 out-patients, and an average of more than 500 operations); London Hospital, 12 beds. The other hospitals have beds for ophthalmic cases, but the number is not stated. Among the provincial schools, those of the Universities and at Newcastle-on-Tyne are the only ones in which there is no special department for teaching ophthalmic surgery. In the Universities of Aberdeen and Glasgow instruction in ophthalmic surgery is given; and the students are admitted to see the practice of ophthalmic institutions in those cities. In the Extra-academical School of Edinburgh, and in Anderson's College and the Royal Infirmary School of Medicine in Glasgow, courses of lectures on the subject are given. In Ireland, provision is made for the teaching of ophthalmic surgery in most of the medical schools in Dublin.

Aural Surgery is taught as a special branch at all the London medical schools, and at the Leeds School of Medicine and the Manchester Royal Infirmary among the provincial schools; also in the Extra-academical School in Edinburgh, and in Glasgow Royal Infirmary School of Medicine.

Diseases of the Throat.—Special instruction in the diagnosis and treatment of diseases of the throat and larynx, and the use of the laryngoscope, is given at St. Bartholomew's Hospital by Dr. Lauder Brunton; at the Charing Cross Hospital by Dr. Irvine; at St. George's Hospital by Dr. Whipple; at King's College Hospital by Dr. Baxter; at the London Hospital by Dr. Morell Mackenzie, who delivers a course of lectures on the subject; at St. Mary's Hospital by Mr. Norton; at the Middlesex Hospital by Mr. Hensman (with Diseases of the Ear); at St. Thomas's Hospital by Dr. Greenfield; at University College Hospital by Dr. Poore; at the Westminster Hospital by Dr. De Havilland Hall; at the Bristol Royal Infirmary by Mr. Harsant; at the Manchester Royal Infirmary by Dr. H. Simpson; and in the Glasgow Royal Infirmary by Dr. E. Watson.

Diseases of the Skin.—For the teaching of this important department of medicine, special provision is made in all the London Hospitals, and in the Manchester Royal Infirmary. Demonstrations of cases, and clinical lectures, are given at stated intervals, generally once a week. In University College Hospital, Dr. Radcliffe Crocker, the physician in this department, gives clinical lectures on diseases of the skin once a fortnight. A course of lectures is given in the Edinburgh Extra-academical School. In Dublin, a course of instruction on diseases of the skin is given at the Adelaide Hospital.

Orthopædic Surgery is taught at St. Bartholomew's

Hospital by Mr. Willett; and also at St. George's Hospital by Mr. Haward; and at the Westminster Hospital by Mr. Richard Davy. Mr. Hardie gives instruction on this subject at the Manchester Royal Infirmary.

Mental Diseases.—Lectures on Psychological Medicine are delivered as a separate course in most of the London schools. Special arrangements for clinical instruction are made in several instances; thus the students of St. Bartholomew's Hospital have access to a large public asylum; those of Guy's Hospital are admitted to Bethlem Hospital, and those of the London Hospital to Bethnal House. Two students of the London schools, qualified to practise, are appointed for six months as resident clinical assistants in Bethlem Hospital. At the Leeds School of Medicine, the students attend the West Riding Lunatic Asylum at Wakefield, where Dr. Major, the Medical Director, gives clinical lectures in addition to a course of systematic lectures at the school. The pupils of the Liverpool Royal Infirmary School of Medicine have the opportunity of receiving instruction at the Rainhill Asylum, from Dr. Rogers. In Manchester, demonstrations of the various forms of insanity are given to senior students by Mr. G. W. Mould, at the Asylum in Cheadle. At the Newcastle-on-Tyne College, instruction in psychological medicine is given by Mr. Wickham, medical superintendent of Coxlodge Asylum. In the University of Edinburgh, Dr. Clouston gives a course of Medical Psychology and Mental Diseases, with practical instruction at the Morningside Asylum. In the Extra-academical School, a similar course is delivered by Dr. Batty Tuke. In the Glasgow Royal Infirmary School of Medicine, a course of lectures on Mental Diseases is given by Dr. A. Robertson, in the City Parochial Asylum. In Dublin, special courses of lectures on mental diseases are given in the Richmond, Whitworth, and Hardwicke Hospitals, adjoining which is a large asylum containing over 1,000 patients. The lectures on psychological medicine are mostly delivered during the summer session.

Public Health.—Special courses of lectures on this subject are given at St. Bartholomew's, Charing Cross, Guy's, the Middlesex, and St. Thomas's Hospitals, and at King's College. At St. George's Hospital, it is included in the course of Medicine; and at the London, St. Mary's, and Westminster Hospitals, in that on Forensic Medicine. In University College, besides the lectures, instruction in the chemical and microscopic examination of air, water, and food, is given in the hygienic laboratory. In most of the provincial schools the subject is included in the lectures on Forensic Medicine; in the Sheffield Medical School, a course of lectures is given by Dr. Drew, and in the Newcastle College of Medicine by Dr. Armstrong. In Scotland, also, the instruction in Public Health is given in connection with that on Medical Jurisprudence. In Dublin, there is a professorship of Hygiene in the school of the Royal College of Surgeons. In Owens College, Manchester, lectures on Hygiene are delivered by Dr. Ransome.

PRACTICAL PHYSIOLOGY.—This subject is taught in most of the schools; but more elaborate provision is made in some cases than in others.

At *St. Bartholomew's Hospital*, the course embraces—1. Microscopic Anatomy or Histology; 2. Physiological Chemistry; 3. Physiological Physics. It is conducted by the demonstrators under the

superintendence of the lecturers on Physiology and Chemistry. Dr. Klein gives a course of lectures on General Histology, with demonstrations. The lectures are delivered on Mondays, and form part of the course on General Anatomy and Physiology.

At *Guy's Hospital*, Mr. Golding-Bird gives a course of Histological demonstrations of the elementary tissues and the chief organs of the body, with their behaviour and re-agents, as studied with the microscope. The course includes about thirty-three demonstrations, and is gone through twice in the winter session. A laboratory class in Practical Physiology, intended for advanced students, is held by Dr. Pye-Smith in the summer.

At *University College*, instruction in Practical Physiology is given by Dr. Burdon Sanderson (the Jodrell Professor of Physiology) and Mr. Schäfer (the Assistant Professor of Physiology). The course of Practical Physiology and Histology consists of practical lessons in Histology and the use of the Microscope, and in Chemical Physiology. The class is divided into two equal parts, which meet on alternate days. Physiological demonstrations are given from time to time in the laboratory.—A course of lectures on Embryology will be given during the winter session by the Assistant Professor of Physiology. In addition, a series of practical lessons will be given in the laboratory on the subjects treated of in the lectures.—Persons desirous of engaging in original investigation in Physiology and Histology may be admitted to the laboratory as workers on the nomination of the Jodrell Professor. An advanced course of practical Physiology, specially adapted to meet the requirements of candidates for the second B.Sc. Examinations of the University of London, will be given during the summer session.

At the *Westminster Hospital*, a course of lectures and demonstrations will be given by Dr. Murrell. The course will consist of three parts:—1. Thirty lectures and demonstrations in the Histology of the Simple Normal Tissues, delivered during May, June, and July; 2. Thirty lectures and demonstrations on the Histology of the Normal Organs and Viscera, delivered in October, November, and December; 3. A course of about twelve demonstrations on Physiological Chemistry.

In *Owens College, Manchester*, a very complete course of practical Physiology is conducted during the summer by Dr. Arthur Gamgee, the Brackenbury Professor of Physiology. The class meets daily for practical Histology in Chemical Work, and free demonstrations in Experimental Physiology. The Physiological Laboratory is open daily during the winter and summer sessions. It is proposed to admit the following classes of students, viz.: (a) those who intend to prosecute original researches in Experimental Physiology or Physiological Chemistry under the direction of the professor; and (b) those who desire to devote special attention to Histology.

Practical Physiology is taught in the University of Edinburgh, by Professor Rutherford; in that of Aberdeen, by Professor Stirling; and in that of Glasgow, by Professor Fleming. Courses are also given in the Edinburgh Extra-Academical School, and in the Glasgow Royal Infirmary School of Medicine and in Anderson's College.

HOSPITAL APPOINTMENTS.—Numerous appointments at the hospitals are open to the diligent student, without payment (except in the few cases hereinafter noticed) of any fee. For the resident

appointments, a qualification to practise is required; and, in some instances, a salary is paid in addition to the provision of rooms and board.

At *St. Bartholomew's Hospital*, four house-physicians and four house-surgeons are appointed annually. A resident midwifery assistant is appointed every six months; an ophthalmic house-surgeon is also appointed for six months, and may be re-elected. An assistant-chloroformist is appointed annually. Each of these officers is provided with rooms by the hospital authorities, and receives an annual salary of £25. Clinical clerks to the medical in-patients, and to the physician-accoucheur, also clerks and dressers for the out-patient and special departments, are chosen from among the students. Sixteen dressers for the surgical in-patients are selected each year; and other in-patient dresserships may be obtained on payment of £12 12s. for three months, £18 18s. for six months, or £26 5s. for twelve months.

At *Charing Cross Hospital*, a medical and a surgical registrar are appointed, each with a salary of £40 a year. A resident medical officer and a resident surgical officer are selected by competitive examination every six months from candidates qualified to practise. A resident obstetrical officer, assistant medical officer, and assistant surgical officer, are appointed every six months, after examination, preference in each case being given to a legally-qualified man. The clinical clerks—three to each physician and two to each assistant-physician, and the dressers—three to each surgeon and assistant-surgeon, and also two clinical clerks to the physician-accoucheur, are appointed for periods of four months. A pathological assistant, who assists at the *post mortem* examinations, is appointed for three months.

At *St. George's Hospital*, house-physicians and house-surgeons are appointed half-yearly from among the perpetual pupils. The appointments are held for twelve months, with board and residence in the hospital free of expense. Each pays a deposit of 50 guineas, which is returned if the duties of his office have been satisfactorily performed. A curator of the Pathological Museum and a medical and a surgical registrar, each with a salary of £50; an ophthalmic registrar and a microscopic pathologist, each with a salary of £25; and an obstetric assistant, with board, residence, and a salary of £100, are appointed annually. An assistant house-physician, an assistant house-surgeon, and two assistant medical registrars, are appointed every six months; and an assistant surgical registrar from time to time. Clinical clerks and dressers are also appointed.

At *Guy's Hospital*, there are appointed during the year 6 senior and 6 junior house-physicians, 6 senior and 6 junior house-surgeons, 12 senior and 12 junior obstetric residents, 24 surgeons' dressers, 18 clinical assistants, 18 dressers in the eye wards, 24 *post mortem* clerks, 24 obstetric out-patient clerks, 32 assistant-physicians' clerks, 12 dental surgeons' dressers, 12 aural surgeons' dressers, 64 medical clinical clerks, 72 or more assistant-surgeons' dressers and dressers in the surgery, 80 surgical clinical clerks, 32 assistant-surgeons' clerks, 60 extern obstetric assistants, and clerks in the room for applying electricity. All students have opportunities of becoming clinical ward clerks to the physicians and surgeons, as well as dressers to the assistant-surgeons and dressers in the surgery; and the diligence with which

they perform the duties of these offices is an important test of their fitness for the higher posts.

At *King's College Hospital*, a physician's assistant, two house-surgeons, a physician-accoucheur's assistant, clinical clerks, and dressers, are chosen by examination from matriculated students of the College who are pupils at the hospital.

At the *London Hospital*, every student is expected to act as clinical clerk to the medical out-patients for six weeks in his second year, and to dress for three months in the surgical out-patient department; also to act as *post mortem* clerk for three months. The following appointments are also made: five house-physicians (qualified for registration) every six months; clinical clerks (open to all full pupils) every six months; a resident accoucheur (qualified) every six months; a clinical obstetric clerk, every three months; four house-surgeons, for six months (each being provided with board and residence); surgical dressing pupils, three clinical assistants (each with a salary at the rate of £80 *per annum*), a medical and a surgical registrar (each with £100 *per annum*), a dental assistant, and ophthalmic and aural dressers.

At *St. Mary's Hospital*, three resident medical officers are appointed for twelve months, and a resident obstetric officer for six months. They all reside in the hospital free of expense. All students are required to perform the duties of clinical clerk and dresser for six months after passing the primary examination. Students of the third year are expected to assist in the out-patient department for three months. A medical registrar is appointed, with a salary of £100 a year.

At the *Middlesex Hospital*, two house-surgeons and three resident physicians' assistants are appointed by competitive examination. The resident physician's assistants, and resident obstetric physician's assistant pay, on appointment, fees varying from ten to twenty guineas, according to circumstances. The appointments of clinical clerks and dressers are so arranged that every student may at some period of his attendance on hospital practice hold both a clerkship and a dressership.

At *St. Thomas's Hospital*, two house-physicians and two assistant house-physicians, two house-surgeons, and two assistant house-surgeons, and a resident accoucheur, are selected from students who have obtained professional diplomas. An ophthalmic assistant, with a salary of £50, is also appointed. Clinical clerks and dressers to in-patients are selected from pupils, to the number in all of at least 48 each year; and clinical clerks and dressers to out-patients to the number of 40 or 50 each year. Two registrars, at an annual salary of £100 each, are appointed each year. There are also numerous minor appointments of anatomical assistants, prosectors, obstetric clerk, etc., open to all students.

In *University College Hospital*, six physicians' assistants, six house-surgeons, and four obstetric assistants, are selected annually by examination from among the senior students. Physicians' clerks, surgeon's dressers, ward clerks, and ophthalmic surgeon's assistants, are selected from among the pupils who are also students of the College. The physicians' assistants, obstetric assistant, and house-surgeons, pay for their board in the hospital.

At the *Westminster Hospital*, a curator of the museum and pathologist, with a salary of £52 10s., a medical and surgical registrar are appointed annually, each with a salary of £40. A house-physician, house-surgeon, and resident obstetric assistant, are ap-

pointed by examination for six months; each is required to pay a deposit of £20, but receives £25 at the expiration of his term of office if the duties have been performed satisfactorily. An assistant house-surgeon is appointed by examination. Clinical assistants to the assistant-physicians and assistant-surgeons and to the officers in charge of special departments are appointed from among the most advanced students of the fourth year. Every student is expected to act as out-patient dresser during three months of his first year, and afterwards to hold the office of in-patient dresser and clinical clerk during a period of four months each.

In the *Birmingham General Hospital*, a resident medical and a resident surgical assistant, and two resident dressers, are appointed, each for six months.

At the *Queen's Hospital, Birmingham*, a resident obstetric assistant is appointed every six months, and a resident dresser every three months.

At the *Bristol Royal Infirmary*, students are appointed to clinical clerkships in their third and fourth years. The surgeons' dressers, when sufficiently qualified, reside in the hospital in weekly rotation, and act under the supervision of the house-surgeon. The dressers and clinical clerks pay fees in addition to those for hospital practice. A pathological clerk is appointed every four months. Apprentices to the house-surgeon are received for five years, and pay a fee of £315, which includes residence and hospital practice, but not dressership or clinical clerkship. House-pupils are also admitted at the rate of £52 10s. *per annum*, with a fee of £52 10s. to the house-surgeon.

At the *Bristol General Hospital*, clinical clerks, dressers, and obstetric clerks are appointed. The clinical clerks and dressers pay each an extra fee of £5 5s. for six months; and the obstetric clerks £3 3s. for three months. Resident pupils are received, and pay £100 for the first year, and £60 for each subsequent year; or £260 for five years.

In the *Leeds General Infirmary*, all students must hold the office of clinical clerk and dresser. A house-physician and house-surgeon are elected from time to time. There are four resident assistants; two are elected every six months, and hold office for one year.

At the *Liverpool Royal Infirmary*, two house-physicians and three house-surgeons are selected (by competitive examination if necessary) from pupils of the school who have obtained a qualification to practise; they hold office for six months. Three clinical clerks are appointed to each physician, and three or more dressers to each surgeon; they hold office for three months. *Post mortem* clerks are appointed for periods of six weeks. This appointment is required to be held by every student.

At the *Manchester Royal Infirmary*, a registrar and a pathological registrar are appointed annually. The following resident medical officers are appointed for two years: Infirmary, salary, £250 *per annum*; at Cheadle Lunatic Asylum £150 *per annum*; at Monsall Fever Hospital, £200 *per annum*. A resident surgical officer is appointed annually, and receives £150; and an accident house-surgeon for six months, receives £40. Four physicians' assistants are appointed in each year; each holds office for six months, and receives £21. Four resident clinical clerks are appointed yearly for the Infirmary, two for Monsall, and two for Cheadle. Eight resident surgical dressers are appointed annually. The clerks and dressers hold office for six months.

In the *Newcastle-on-Tyne Infirmary*, four resident

dressers are appointed twice a year; each pays a fee of £10 10s. for six months. Two assistants to the pathologist are appointed in May and December.

In the *Edinburgh Royal Infirmary*, four resident physicians and four resident surgeons are appointed for six months. Clinical clerks are also appointed; and each surgeon appoints several dressers for six months. There are also assistants in the pathological department.

In the *Glasgow Royal Infirmary*, five physicians' and five surgeons' assistants are boarded and lodged in the Hospital at the rate of £25 *per annum*. The appointments can be held for twelve months, six in the medical and six in the surgical wards. These appointments are open to students who have passed all their examinations except the last, or to qualified gentlemen. There are also numerous clerkships and dresserships.

TUTORIAL INSTRUCTION.—In addition to the ordinary courses of lectures and hospital practice, and practical instruction, many of the medical schools have an officer whose special duty it is to direct the pupils in their studies, and to hold classes for the guidance of those who are about to present themselves for examination before the licensing boards.

At *St. Bartholomew's Hospital*, it is one of the duties of the warden to direct the studies of the resident students; but it is recommended that all students should seek his advice in questions relating to education. Students preparing for examinations are examined in classes by the lecturers, demonstrators, and medical tutors.

At *Guy's Hospital*, the medical and surgical registrars, and the demonstrators of Anatomy and Chemistry, assist pupils in their studies, and prepare them for their examination by special class instruction, throughout both sessions. Special classes are held for the assistance of students preparing for the Preliminary Scientific and first M.B. examinations of the University of London.

At *King's College*, a medical tutor assists, by instruction and examination, all students in the subjects of the lectures of their first winter and summer session, as well as those preparing for the Preliminary Scientific Examination of the University of London.

In the *London Hospital*, special attention is paid to the preparation of students for their examinations at the Colleges of Physicians and of Surgeons, the Apothecaries' Hall, and the University of London. Students are also prepared for the Matriculation, Preliminary Scientific, and first B.Sc. examinations of the University of London.

At *St. Mary's Hospital*, the medical tutor assists the students in preparing for their final examinations, testing their knowledge by various means.

In the *Middlesex Hospital*, the college tutor assists all general students, especially those who are preparing for their primary examination before any of the licensing boards; and his classes are arranged with a view to obviate the necessity of obtaining private teaching apart from that of the Medical School.

At *St. Thomas's Hospital*, classes are held for the preparation of students for the Preliminary Scientific and first M.B. examinations of the University of London.

In *University College*, gentlemen who desire assistance in their studies may obtain the same

within the College on application to the respective professors.

At the *Westminster Hospital*, a tutorial staff will hold frequent *vivâ voce* and written examinations, to aid the students in their work and in preparation for examination. Special classes will be formed for the assistance of students preparing for the examinations of the University of London.

In the *Queen's College, Birmingham*, there is a medical tutor, who holds classes for junior students throughout the winter and summer sessions. Special classes are also held for the examinations of the University of London.

In the *University of Durham College of Medicine*, at Newcastle-on-Tyne, a medical Tutor assists the pupils in their studies and in preparing for examination.

SCHOLARSHIPS, EXHIBITIONS, AND PRIZES.—In addition to the rewards for diligence in professional study, many of the medical schools offer yearly one or more scholarships, usually in general literature, and in some instances in science. The competition is open to gentlemen about to commence their hospital studies; and the successful candidate is expected to enter as a pupil of the school in which the examination has been passed. In the examination in general literature, the subjects are usually those of preliminary education as defined by the General Medical Council, or of the Matriculation Examination of the University of London. In the Science scholarships, the usual subjects are Chemistry, Botany, and Zoology. The yearly value of the scholarships and exhibitions varies from £100 to £10.

There are also many scholarships and exhibitions, varying in value from £100 to £20, open to students during their period of professional study, or (as at St. George's Hospital) within a limited time after they have passed their final examinations for licences to practise. These exhibitions are in some cases (as at St. Bartholomew's and the London Hospitals) awarded after examination in subjects of preliminary education; but in most of the schools they are given after examination in groups of subjects of professional education, elementary or practical.

Special rewards are also offered in many of the schools for evidence of proficiency in clinical observation.

For further information respecting the scholarships and exhibitions, and regarding the class prizes, as well as for many details which we are obliged to omit, our readers must consult the prospectuses of the schools and our advertising columns.

MEDICAL GRADUATION IN FRANCE.

DEGREES in Medicine of the University of France are conferred by the Faculties of Paris, Montpellier, Nancy, Bordeaux, Lille, and Lyons, under regulations laid down by the Government.

1. The studies necessary for obtaining the degree of Doctor of Medicine last four years; during the first three years they may be carried on either in the Faculties, in the *Ecoles de plein exercice*, or in the preparatory schools of medicine and pharmacy. The studies of the fourth year can only be made in a Faculty or in an *Ecole de plein exercice*.

2. The candidates must produce, when they take the first inscription, the diploma of Bachelor of Sciences, limited as regards the mathematical part. They must undergo five examinations and defend a thesis. The second, third, and fifth examinations are divided into two parts. The *examens de fin d'année* are suppressed.

3. The five examinations are on the following subjects. *First Examination*: Physics, chemistry, medical natural history. *Second Examination*: First part, anatomy and histology; second part, physiology. *Third Examination*: First part, external pathology (surgery), midwifery, operative surgery; second part, internal pathology (medicine), general pathology. *Fourth Examination*: Hygiene, legal medicine, therapeutics, materia medica, and pharmacology. *Fifth Examination*: First part, clinical surgery and obstetrics; second part, clinical medicine, practical demonstrations in pathological anatomy; and a thesis on a subject chosen by the candidate.

4. The first examination takes place after the fourth inscription and before the fifth; the first part of the second examination, after the tenth inscription, and before the twelfth; and the second part after the twelfth inscription and before the fourteenth. The third examination cannot be passed until the expiration of the sixth *trimestre* of study. Any candidate who does not pass the first examination in November, at the latest, will be put back to the end of the scholastic year, and will not be permitted to take out any inscription during the course of that year.

5. Candidates for the doctorate, pupils of *écoles de plein exercice* or of the preparatory schools, are examined by the Faculties at the periods fixed in the preceding article. They may, however, without interrupting their studies, defer the first examination until after the twelfth inscription. In that case they must pass the second examination (first and second parts) before the thirteenth inscription, and, from the commencement of the second year of study, are subjected to interrogations at the end of each six months, the results of which are transmitted to the Faculties, to be taken into account in the examinations for the doctorate.

6. The inscriptions for *officier de santé* cannot, under any circumstances, be converted into inscriptions for the doctorate, in the case of pupils actually studying; this conversion may be permitted in the case of *officiers de santé* who have practised medicine for at least two years.

7. Practical work in the laboratory, dissection, and residence near the hospitals, are obligatory. Each annual period of laboratory work and dissection comprises six months' course, or *semestre*. Residence near the hospitals must not continue less than two years.

8. The fees to be paid by candidates for the degree of Doctor in Medicine are fixed as follows: Sixteen inscriptions at 32 *francs* 50 *centimes* each = 520 *francs*; eight examinations at 30 *francs* = 240 *francs*.

Sixteen inscriptions at 32 <i>francs</i> 53 <i>centimes</i> each	...	...	520 <i>francs</i> .
Eight examinations at 30 <i>francs</i>	...	...	240 "
Eight certificates of proficiency at 25 <i>francs</i>	...	...	200 "
Expenses of materials for practical study, first year, 60 <i>francs</i> ; second			

and third years, each 40 <i>francs</i> ;	
fourth year, 20 <i>francs</i>	160 <i>francs</i> .
Thesis	100 "
Certificate of proficiency	40 "
Diploma	100 "
Total	1,360 "

9. Every candidate who, without an excuse admitted by the jury, does not answer when his name is called, on the day of which notice has been given to him, will be sent back for three months, and will forfeit the fees which he has paid.

10. The fees paid by the pupils of the Faculties go to the public treasury. The fees paid for inscriptions and for practical work by the pupils of the *écoles de plein exercice* and the preparatory schools go to the municipal treasuries.

The present regulations came into force on November 1st, 1879. Candidates inscribed before that time may choose whether they will undergo the new mode of examination or that previously existing. If they prefer the new mode, they will have in all cases to undergo all the examinations established by section 3, as above.

A foreigner holding medical qualifications to practise medicine, if desirous of obtaining the degree of the University of France, must show to the Minister of Public Instruction his diploma, and the certificates of the course of study which he has undergone in his own University or Medical School. The Minister, if satisfied, will authorise the candidate to present himself for the five final examinations (*examens de réception*). These are conducted in the French language. The fees are as follows: each examination 90 *francs*=450 *francs*; thesis, 240 *francs*; fifteen inscriptions, 520 *francs*; three *examens de fin d'année*, 90 *francs*; diplomas of *bachelier ès lettres et ès sciences*, 100 *francs*; in all, 1,400 *francs*. It will be seen that the candidate has to pay all the fees, although exempted from the necessity of passing the preliminary examinations, and those for the *bachelier ès lettres et ès sciences*.

MEDICAL EDUCATION IN FRANCE.

Medical Education in France is under the control of the State, and is given in the Faculties of Medicine and Pharmacy, the *Écoles de Plein Exercice*, and the Preparatory Schools of Medicine and Pharmacy.

The Preparatory Schools are entitled to give diplomas or certificates of *Officier de Santé et Pharmacien*, herbalist, or midwife, of the second class. Candidates for the doctorate can study in them three years, and take out twelve inscriptions. There are preparatory schools at Amiens, Arras, Rouen, Angers, Poitiers, Limoges, Tours, Caen, Besançon, Reims, Dijon, Grenoble, Toulouse, Clermont, and Algiers.

There are two *écoles de plein exercice*, viz., at Nantes and at Marseilles. They are entitled to give the same certificates as the preparatory schools; but candidates for the doctorate may take out sixteen inscriptions in them.

The Faculties are six in number: three—those of Paris, Montpellier, and Nancy, are composed of two distinct schools of Medicine and of Pharmacy; the others, at Bordeaux, Lille, and Lyons, are called mixed Faculties of Medicine and Pharmacy. They confer, besides the same diplomas and certificates as the other schools, the diplomas of doctor in medicine and *pharmacien* and midwife of the first

class. The following are the conditions laid down by the French Government for the recognition of a Faculty of Medicine. The city in which the school is established must pay a proper share of the expenses. There must be seventeen professorships; viz., Anatomy, Physiology, Internal Physiology (Medicine), General Pathology and Pathological Anatomy, Hygiene and Forensic Medicine, Operative Surgery, Therapeutics, *Materia Medica*, Botany and Zoology, Medical Chemistry, Medical Physics, Pharmacy and Clinical Midwifery—each with one professor; and two professors each of Clinical Medicine and Clinical Surgery. There must also be eight assistant-professors; two each for the natural sciences, medicine and surgery, and one each for obstetrics, and for anatomy and physiology. These assistants are selected by *concours*, and appointed for ten years.

FACULTY OF MEDICINE IN PARIS.

The School of Medicine in Paris is open not only to the French public, but to all who wish to attend the courses and take degrees. Great facilities are afforded to British and foreign students for the prosecution of their studies, all lectures being given gratuitously, and no payment being required for hospital attendance. For dissections, however, a payment of 30 *francs* or more is expected from each student.

The medical sessions begin for winter on October 15th, and for summer on April 15th of each year.

The instruction in the Faculty of Medicine in Paris is given by the following professors: M. Sappey, Anatomy; M. Robin, Histology; M. Béclard, Physiology; M. Wurtz, Medical Chemistry; M. Baillon, Natural History; M. Gavarret, Medical Physics; M. Regnaud, Pharmacology; MM. Jacoud and Peter, Internal Pathology or Medicine; M. Trélat, External Pathology or Surgery; M. Guyon, Surgical Pathology; M. Le Fort, Practical Surgery; M. Hayem, *Materia Medica* and Therapeutics; M. Charcot, Pathological Anatomy; M. Pajot, Midwifery; M. Bouchardat, Hygiene; M. Brouardel, Forensic Medicine; M. Bouchard, General Pathology and Therapeutics; M. Vulpian, Comparative and Experimental Medicine; MM. G. Sée, Lasègue, Hardy, Potain, Clinical Medicine; M. Depaul, Clinical Midwifery; M. Panas, Clinical Ophthalmology; M. Parrot, Diseases of Children; M. Laboulbène, History of Medicine; M. Ball, Diseases of the Mind and Nervous System. Supplementary courses are also given on Diseases of the Skin, Diseases of Children, Venereal Diseases (M. Fournier).

The Faculty of Medicine possesses laboratories for Normal Histology (Director, M. Ch. Robin), Physiology (Professor Béclard), Pathological Anatomy (Professor Charcot), Experimental Pathology (Professor Vulpian), Therapeutics (M. Hayem), Biological Chemistry (M. Gautier), Pharmacology (Professor Regnaud).

In consequence of limited accommodation and restricted pecuniary means, these laboratories are, as a rule, incapable of being so useful as such institutions might be expected to be. It is found necessary to limit their use to medical men and to students who are pursuing researches for some definite purpose, such as the preparation of their theses. No payment is required; the demonstrators (*préparateurs*) aid with advice; the apparatus is at the disposal of the workers in the laboratories, but they

generally have to pay for animals and other objects which they may require.

There is also a Chemical Laboratory belonging to the Faculty, to which the students are admitted without fee; they pay, however, the expenses incurred in their studies.

Attached to the Faculty of Medicine are the Orfila Museum of Anatomy and Zoology, at the École de Médecine; and the Dupuytren Museum of Pathological Anatomy, in the École Pratique; and the Library.

The prizes of the Faculty of Medicine are the following. The Corvisart prize, a gold medal of the value of 400 francs (£16), is offered for competition to all pupils of the Faculty who have also entered to one of the internal clinics. The subject is some question in medicine, the answer to which must be derived exclusively from the facts observed in hospital practice. The Monthyon prize, consisting of 700 francs (£28), is awarded to the author of the best essay on the prevalent diseases of the preceding year, their characters, symptoms, and treatment. The Barbier prize of 2,000 francs (£80) is offered annually to the inventor of an operation, or of instruments, bandages, etc., of general utility and superior to anything of the kind that has been already in use. The Chateauevillard prize, also of 2,000 francs, is awarded yearly to the author of the best work on the medical sciences, printed between January 1 and December 31 in the preceding year. The works sent for competition must be in French. Graduation theses are admitted. An annual sum of 1,000 francs (£40) is awarded, under the will of the late Baron de Frémont, to a meritorious but poor student. An annual revenue of 3,000 francs, bequeathed by Madame de Barkow, is applied to a similar purpose in the superior educational establishments in Paris. The Lacaze prize of 10,000 francs (£400) is offered biennially for the best essay on phthisis or on typhoid fever—the subjects being taken alternately. After the examination of the theses, the Faculty names to the Minister of Public Instruction the candidates worthy of special distinction, in the form of silver medals, bronze medals, and honourable mention.

THE COLLEGE OF FRANCE.

In this institution, the following courses of instruction on sciences allied to medicine are given, viz., Experimental Medicine, by Dr. Brown-Séquard; General Anatomy, by M. Ranvier; Natural History of Organised Bodies, by M. Marey; Comparative Embryogeny, by M. Balbiani; Organic Chemistry, by M. Berthelot; Mineral Chemistry, by M. Schützenberger. The Histological Laboratory is under the direction of M. Ranvier and M. Malassez, and is specially intended for the use of persons desirous of making original researches. The physiological Laboratory, directed by Professor Marey and M. François Franck, is open to persons who enter their names for the purpose with the secretary of the Faculty of Sciences, and who have a sufficient knowledge of physiology to enable them to undertake experimental research. The researches may have reference to any department of physiology; but special attention is paid in this laboratory to the phenomena of motion, and their registration by suitable apparatus.

FREE MEDICAL INSTRUCTION.

In addition to the professors in the Faculty of Medicine, there are a number of lecturers who are

authorised to give instruction in the École Pratique of the Faculty.

THE HOSPITALS OF PARIS.

Pupils of the Faculty of Medicine in Paris attend, without payment, the practice of any of the hospitals which they may select. The visits of the physicians and surgeons are generally made at an early hour—8 or 9 A.M. The following is a list of these institutions:

Hôtel Dieu, Parvis Notre Dame.—530 beds. The hospital possesses laboratories for histology, and for chemistry and physiology; also a library for the use of the *internes*.

Hôpital des Cliniques, 21, Place de l'école de Médecine.—138 beds. Students are only admitted to the obstetric department of this hospital when provided with a card, which is obtained from the Secretary of the Faculty of Medicine, after passing the second examination for the doctorate.

Hôpital de la Charité, 47, Rue Jacob.—504 beds. The library of this hospital contains a large number of works in anatomy, physiology, medicine, and surgery, including numerous theses.

Hôpital de la Pitié, 1, Rue Lacépède.—709 beds.

Hôpital Lariboisière, Rue Ambroise Paré.—690 beds. Besides the ordinary clinical instruction, instruction is also given in ophthalmic surgery and diseases of the larynx.

Hôpital Saint-Antoine, Rue de Faubourg Saint-Antoine.—647 beds.

Hôpital Necker, 151, Rue de Sèvres.—418 beds. The Civile museum, containing numerous calculi and specimens of diseases of the urinary organs, is attached to the hospital.

Hôpital Beaujon, 208, Faubourg Saint-Honoré.—416 beds. The hospital possesses a library containing 200 volumes, and a large number of theses.

Hôpital Cochin, 17, Faubourg Saint-Jacques.—249 beds. An obstetric department is attached to this hospital; but only a limited number of students are admitted to the morning visit.

Hôpital Laennec, 42, Rue de Sèvres.—550 beds.

Hospice de la Salpêtrière, Boulevard de l'Hôpital.—3,069 beds for old persons, and 662 for female lunatics. There is a medical library, founded and supported by the *internes*; it contains more than 1,500 volumes. M. Charcot, one of the physicians, gives a course of instruction on diseases of the nervous system.

Hospice de Bicêtre.—1,794 beds for old persons, and 540 for male lunatics. There is also a small accident ward of ten beds. The library, which was founded in 1865, contains about 2,000 volumes.

Hôpital des Enfants Malades, 149, Rue de Sèvres.—518 beds. There are wards for acute and chronic diseases, small-pox, and diseases of the eye.

Hôpital Sainte-Eugénie, 89, Rue de Charenton.—427 beds.

Hôpital Saint-Louis, 40, Rue Bichat.—823 beds; of which 637 are occupied with cases of skin-disease, 28 with obstetric cases, and the rest with surgical cases. General medicine is not taught in this hospital, but there are ample means for the special study of diseases of the skin, on which courses of theoretical and practical lectures are delivered. A museum containing several hundred models and drawings illustrating diseases of the skin; to which is added M. Fournier's collection of illustrations of venereal diseases. The hospital is also rich in surgical cases.

Hôpital du Midi, Boulevard du Port-Royal.—336

beds, devoted exclusively to the reception of cases of venereal disease.

Hôpital de Lourcine, 111, Rue de Lourcine.—243 beds. Students are admitted to the hospital by special ticket.

Hôpital Tenon, Rue de la Chine.—635 beds. Besides these, 190 beds can be added in cases of epidemics, etc.

The *Maison d'Accouchement*, 123, Boulevard du Port-Royal; contains 316 beds. This hospital is employed exclusively for the education of midwives, and is not open to students of medicine. Attached to the hospital is a school for midwives.

HOSPITAL APPOINTMENTS IN PARIS: CONCOURS.

The medical staff of each hospital in Paris consists of—1. Physicians and Surgeons; 2. Prosectors; 3. *Internes* and *Externes* in Medicine and in Surgery; 4. *Pharmaciens*; 5. *Internes* in Pharmacy.

All the appointments in the hospitals of Paris are obtained by *concours*; and, when vacant, are eagerly competed for.

Each medical service is under the direction of a physician, and comprises also an *interne* and three or four *externes*. The organisation of the surgical departments is similar; but the number of pupils is greater, and there are generally two or three *internes* and five or six *externes*.

The chief of the medical staff, physician or surgeon, receives annually a salary of 1,200 francs (£48) in the central hospitals, and 1,500 francs (£60) in the more distant ones. The physicians retire from hospital duty at the age of 65, and the surgeons at 63. When first nominated, they have to attend the consultations at the central bureau, and to do duty for any of the hospital physicians and surgeons that may be absent. As vacancies occur in the hospitals, they receive appointments in the order of their nomination.

The *internes* and *externes* are nominated by *concours* for four years, and receive 500 francs per annum for the first two years, 600 francs the third year, and 700 francs the fourth year. Some of them are also provided with lodging, fire, and light; others receive 400 francs yearly in lieu of lodging.

The *interne* is the most direct assistant of the hospital physician or surgeon; he accompanies him in his morning visit, and himself visits the patients in the evening. The *internes* remain on duty in turn, to attend to urgent accidents and cases of illness.

In November, the *internes* are invited to compete for prizes. To those of the first and second years are offered a silver medal, books, and two certificates of honour. Those of the third and fourth years compete for a gold medal, a silver medal, and two certificates of honour. The successful candidate for the gold medal is entitled to two additional years of *internat*.

Those candidates who are placed in the first list at the *concours*, but do not succeed in getting appointments, are termed provisional *internes*, and fill the places of those who are absent. They have, however, to compete again at the end of the year, if they desire to receive appointments.

The *externes*, who are appointed for three years, have to take records of cases, either alone or under the direction of the *internes*, to assist the latter in dressing difficult cases, and to dress the minor cases. The *external*, well employed, is a safe road to the *internat*. The *externes* at the central hospitals are not paid; at those more distant from the centre of the city they receive 300 francs yearly.

The *concours* for the *external* generally commences early in October and continues until the end of December. Candidates must not be under 18, nor above 25 years of age. They must produce—1. A register of birth; 2. A certificate of vaccination; 3. A certificate of good conduct signed by the mayor of the commune in which the candidate is domiciled; 4. A certificate of at least one inscription in the Faculty of Medicine. The examination consists in—1. An oral description of some subject in descriptive anatomy; 2. A similar description of some elementary subject in pathology or minor surgery. For each five minutes are allowed, after five minutes of reflection. Twenty candidates are examined on each day. The maximum number of marks that can be gained by a candidate is 20 for each examination. The examination is conducted by four physicians and three surgeons of the central bureau, generally from those most recently appointed.

The *concours* for the *internal* takes place nearly at the same time as that for the *external*. Candidates must not be more than 28 years old, and must produce certificate of having performed the duties of *externe* at least from the first day of the preceding January, without interruption (unless this have been unavoidable); also certificates from the physicians and surgeons and the directors of the hospitals in which they have performed the duties of *externe*, testifying to their punctuality, obedience, and good conduct. The examination commences with a written essay on some subject in anatomy and medical or surgical pathology, for which two hours are allowed. The question is drawn by lot from three chosen by the jury of examiners. The candidates read their competitions before the examiners, and receive a number of marks, generally varying from 20 to 28 (the maximum being 30). After this, the candidates are classified, and a certain number only (about three for each vacant place) are admitted to the second examination. In this, a question in anatomy and pathology is proposed; ten minutes are allowed for consideration, and ten minutes for the oral answer. The maximum number of marks for this examination is 20. The examiners are selected in the same way as for the *external*.

At the end of the *concours*, the candidates are classified according to the number of marks; and the 35 or 40 first on the list are nominated *internes*.

The first four candidates on the list are the successful candidates for the prize for *externes*, the examination for which is the same as that for the *internal*. The first receives a case of instruments of the value of 300 francs, and has, during his first year, the sum of 800 francs in addition to the payment which he receives in common with the other *internes*. The first and second candidates are also presented with books.

The prizes offered to the *internes* are competed for in the beginning of November. The examination consists in—1. A written composition, for which two hours are allowed, bearing on anatomy, physiology, and pathology; 2. An oral description of some subject in external pathology; 3. A similar description of some subject in internal pathology (for each of these ten minutes are allowed); 4. *Internes* of the third and fourth years must also have sent in, before August 15, an original essay on some subject selected by them; this is generally based on observations made in the hospital. These essays are often of considerable merit, and are utilised for the graduation theses, or published in the Journals. The maxima of marks obtainable are: for the written

composition, 30; for the essay, 40; for each oral examination, 20.

The Civial prize, of the value of 1,000 *francs*, is given every second year to the best essay by an *interne* on duty on some point in the pathology of the genito-urinary passages.

The *concours* at the Bureau central for the office of physician consists of five examinations. 1. The candidate gives a lecture for a quarter of an hour on a patient, for whose examination ten minutes are allowed. 2. A lecture of twenty minutes' duration, after twenty minutes' reflection, on some subject in medicine. 3. A written consultation on a medical case; ten minutes being allowed for examining the patient, and three-fourths of an hour for writing out the consultation. To each of those examinations a maximum of 20 marks is allotted. During these three examinations, a gradual process of elimination takes place, so that at last there remain five candidates for one place, eight for two, and ten for three places. These are then further subjected to the following tests: 1. A written composition, for which three hours are allowed, on some subject in medicine, which must comprise a question in pathological anatomy; 2. A lecture of thirty minutes' duration on two patients, twenty minutes being allowed for examining them. This is the most difficult part of the examination.

In the *concours* for the office of surgeon, the examinations are nearly the same; there is in addition, an examination in operative surgery, and the candidate has to lecture on one subject instead of two. The number of candidates is generally much smaller than that for the office of physician, and the elimination does not commence until after the third examination.

MEDICAL EDUCATION IN THE PROVINCES.

Faculty of Medicine at Montpellier.—The instruction in this Faculty is given by the following professors:—M. Bouisson, Operative Surgery; M. Boyer, Surgical Pathology; M. Benoit, Anatomy; M. Rouget, Physiology; M. Estor, Pathological Anatomy and Histology; M. Engel, Chemistry; M. Castan, Medical Pathology; M. Joullié and M. Binar (*agrégé*), Anatomy; M. Jacquemet (*agrégé*), Ophthalmology; M. Chalot (*agrégé*), External Pathology; M. Moitessier, Physics; M. Engel, Surgery; M. Dumas, Obstetric Medicine; M. Martins, Botany and Medical Natural History; M. Fonsagrives, and M. Grynfeldt (*agrégé*), Materia Medica and Therapeutics; M. Cavalier, General Pathology and Therapeutics; M. Jaumes, Forensic Medicine; M. Bertin, Hygiene; M. Hamelin (*agrégé*), History of Medicine. Clinical Medicine is taught by Professors Dupré and Combat; Clinical Surgery, by Professors Courty and Dubreuil; and Clinical Midwifery, by Professor Dumas, at the Hôpital Saint-Eloi. Clinical instruction in Nervous and Mental Diseases is given at the asylum by Professor Cavalier; in Diseases of Children, by M. Battle, at the General Hospital; in Syphilitic and Cutaneous Diseases, by M. Goyrand, at the Hôpital Saint-Eloi and the General Hospital alternately; and in Disease of Old Persons, by M. Grasset, at the General Hospital. A prize of 500 *francs*, presented by Dr. Fontaine, is awarded every year to the author of the best thesis. The library, the conservatory, the anatomical museum, and the botanical garden, are open daily.

Faculty of Medicine of Nancy.—The following are the professors in this Faculty: M. Engel, Medical

Natural History and Botany; M. Ritter, Medical Chemistry and Toxicology; M. Charpentier (adjunct), Medical Physics; M. Morel, and M. Lallement (adjunct) Anatomy; M. Feltz, and M. Demange (adjunct), Pathological Anatomy and Physiology; M. Bach, and M. Béchet (adjunct) External Pathology; M. Hecht, Internal Pathology; M. ———, Obstetric Medicine; M. Coze, Materia Medica and Therapeutics; M. Tourdes, Forensic Medicine; M. Poincaré (adjunct), Hygiene; M. Beaunis, Physiology; M. Chrétien (*agrégé*), Histology. Clinical Medicine is taught at the Hôpital Saint-Charles, by Professors Parisot and Bernheim; Clinical Surgery at the Hôpital Saint-Léon, by Professors Rigaud and Michel; Clinical Midwifery at the Maison de Secours, by Professor Hergott; and Clinical instruction in Ophthalmology is given at the Hôpital Saint-Charles, by M. Gross; in Syphilitic and Cutaneous Diseases at the Maison de Secours, by M. Béchet; and in the Diseases of Old Persons, at the Hôpital Saint-Julien, by M. Demange. There are laboratories of Physiological and Pathological Chemistry, Physiology, Pathology and Pathological Anatomy, and Histology. Prizes are awarded at the end of each year of study, and there is a special prize for *internes*.

Faculty of Medicine and Pharmacy of Lille.—The following is a list of the professors in this Faculty: M. Folet, Anatomy; M. Hallez, Medical Pathology; M. Kelsch, Pathological Histology and Anatomy; M. Baggio, Forensic Medicine; M. Giard, Medical Natural History; M. Garreau, Medical Chemistry and Toxicology; M. Terquem, Medical Physics; M. Lotar, Pharmacy and Pharmacology; M. Morat, Physiology; M. Morisson, Surgical Pathology; M. Joire, Materia Medica and Therapeutics; M. Paquet, Operative Surgery; M. Arnould, Hygiene; M. Pilat, Midwifery; M. Bouteille, Nervous and Mental Diseases; M. Cuignet, Ophthalmology; M. Castelain, Diseases of the Skin and Syphilis; M. Castiaux, Diseases of Children. Clinical Medicine is taught by MM. Wannebroucq and Cazeneuve, and Clinical Surgery by MM. Parise and Houzé de l'aulnoit, at the Hôpital Saint-Sauveur; and Clinical Midwifery by M. Pilat, at the Hôpital Sainte-Eugénie.

Faculty of Medicine and Pharmacy of Lyons.—The teaching staff of the faculty is constituted of the following members: M. Lortet, Medical Zoology and Comparative Anatomy; M. Monoyer, Medical Physics; M. Magnin (*agrégé*), Materia Medica and Botany; M. Glénard and M. Cazeneuve (*agrégé*), Chemistry; M. Charpy (*agrégé*), Anatomy; M. Picard, Physiology; M. Renaut, General Anatomy and Histology; M. Bondet and M. R. Tripiér (*agrégé*), Internal Pathology; M. Berne and M. Letiévant (adjunct), External Pathology; M. Pierret and M. Colrat (*agrégé*), Pathological Anatomy; M. Tripiér, Operative Surgery; M. Rollet, Hygiene; M. Chauveau, Experimental and Comparative Medicine; M. Mayet, General Pathology; M. Soulier and M. Bergeron (*agrégé*), Therapeutics; M. Delore (adjunct), Midwifery; M. Crolas, Pharmacy; M. Carrier (*agrégé*), Mental Diseases. The following courses of clinical instruction are given: Medicine by Professors Teissier, Lépine, and Rambaud; and Surgery, by Professors Ollier and Desgranges, at the Hôtel-Dieu; Obstetric Medicine, by Professor Bouchacourt, at La Charité; Ophthalmic Surgery, by Professor Gayet, at the Hôtel-Dieu; and Cutaneous and Syphilitic Diseases, by Professor Gailleton and M. Dron (*agrégé*), at the Antiquaille;

Mental Diseases, by Professor Arthaud, at the Dron Asylum; Diseases of Women, by M. Laroyenne; Diseases of Children, by M. Perroud; and Surgical Diseases of Children, by M. Fochier (*agrégé*), at La Charité. The Hôtel-Dieu contains about 1,000 beds; the Charité Hospital, about 800 beds; and the Asylum at Dron, 1,000 patients. Besides these hospitals, the Hôpital de la Croix Rousse, containing about 400 beds—although, in consequence of the distance, not attached to the Faculty—is available for clinical instruction; most of its medical staff being professors or *agrégés* in the Faculty. There is also a convalescent hospital at Longchêne, containing 100 beds. There are laboratories for the study of Anatomy and Operative Surgery, Physiology, Pathological Anatomy, Experimental and Comparative Medicine, Medical and Pharmaceutical Chemistry, Medical Physics, Natural History, and Pharmacy.

Faculty of Medicine and Pharmacy of Bordeaux.—The professional staff consists of the following members: M. Bouchard, Anatomy; M. Azam, External Pathology; M. Dupuy, Internal Pathology; M. Vergely, General Pathology; M. Morache, Forensic Medicine; M. de Fleury, Therapeutics; M. Micé, Chemistry; M. Merget, Physics; M. Métadier, Pharmacy; M. Guillaud, Natural History; M. Perrens, Materia Medica; M. Layet, Hygiene; M. Coyne, Pathological Anatomy; M. Masse, Operative Surgery; M. Oré, Physiology; M. Pitres, Histology; M. Jolyet, Experimental Medicine; MM. Bitot and Négrié, Diseases of Children; M. Venot, Cutaneous and Syphilitic Diseases; M. Badal, Ophthalmology; MM. Picot and Mabit, Clinical Medicine; MM. Denucé and Lannelongue, Clinical Surgery; M. Mousous, Clinical Midwifery. There are laboratories of Pharmacy, Chemistry, Materia Medica, Physiology, Experimental Medicine, Toxicology, Histology, and Pathological Anatomy, etc.

MILITARY AND NAVAL MEDICAL SCHOOLS.

For the purpose of training medical officers for the Army and Navy, there are four schools: the School of Military Medicine and Pharmacy at Val de Grâce, and the Naval Schools of Brest, Rochefort, and Toulon.

MEDICAL DEGREES IN GERMANY.

IN the German empire there are twenty Universities which possess a Medical Faculty and grant degrees in Medicine; viz., those of Berlin, Bonn, Breslau, Erlangen, Freiburg im Breisgau, Giessen, Göttingen, Greifswald, Halle, Heidelberg, Jena, Kiel, Königsberg, Leipzig, Marburg, Munich, Rostock, Strasburg, Tübingen, and Würzburg.

No one can legally practise Medicine in this empire unless he has passed the 'Staats-Examen' Board. The law forbids anyone to call himself *Arzt* (Physician) unless he has passed the State Board, or Doctor, unless he has passed the examinations at some University, and thereby acquired the degree. The doctor who has not passed the State Board is not a licensed physician, and may hold no appointment; and if he practise, has no power or right to insist on payment of his services. The physician, licensed by the State Board, on the other hand, is not allowed to call himself 'doctor', unless he has passed an University examination. The practitioner

who is neither doctor nor physician, practises at his peril; for though he is not forbidden by law to do so, yet, if any mishap occur from his ignorance, he is punished not only by fine, but by imprisonment for a period varying from six months to ten years.

The expenses of passing the State Board are less than half of those for the faculty of an University, and the examination is more exclusively practical; hence it is selected by the poorer students who seek only a rural practice. The majority of students pass both the University and the State examinations, and this is especially necessary for those who aspire to any medical office.

No medical diploma, either from an University or otherwise, can be obtained in Germany without a gymnasial certificate, to obtain which an examination must be passed at a German gymnasium (public school) in Greek, Latin, at least one Modern Language besides German, Logic, the Physical Sciences, and Mathematics. A candidate who cannot present this, or an equivalent certificate, must pass a preliminary examination in those subjects.

The number and character of professional chairs in the medical faculties vary greatly in the different Universities; but in all we find three classes of teachers, viz., professors, extraordinary or assistant professors, and *privat-docents*.

The professors are appointed for life, and at the end of thirty years' service can retire on a pension; they receive a fixed salary from the State or University—a part of the revenue derived by the medical faculty from certain fees, and their lecture fees from the students. The fixed salary is occasionally increased, according to the success and reputation of the professor. Any doctor in medicine may be a candidate for a vacant chair, the selection being made by the Minister of Public Instruction from a list of names recommended by the faculty.

The extraordinary or assistant professors are appointed in like manner from among the *privat-docents*. As a rule, their compensation comes only from students' fees, but occasionally a small fixed salary is allowed.

The position of *privat-docent* is accessible to all doctors of medicine, and the number is unlimited. Their compensation is from students' fees, and they may not underbid the regular professor. At some Universities they are furnished with rooms, and given a share of the clinics; at others they receive little or no assistance.

There are no independent schools in Germany. No one can open a course on his own responsibility, and the Universities have alone the power to confer academic grades. The system of *privat-docents*, however, compensates in a great measure for this want of freedom. As the test of fitness for a degree in the University, or for the position of a practitioner in the State, is mainly the ability to pass certain examinations, and as the salaries of the professors are guaranteed by the State, it is evident that it makes little difference as to precisely when, where, or how the student gets his information, provided only that he really gets it.

There is, therefore, little objection to free, or as it is sometimes called, 'extramural teaching', and hence young men of ability can establish themselves as private teachers, demonstrators, etc., in the immediate vicinity of the Universities, relying on their own talents and tact to secure pupils. These are the *privat-docents*, much of whose teaching consists in giving short courses, of from six to eight weeks' duration, on special subjects. These *privat-docents* are

subject to certain regulations, and follow in a general way the teaching and directions of the professor of the special branch to which they attach themselves; they are understood to be in training for professorships, and, if they show marked ability as teachers or as investigators, their promotion may be very rapid.

The course of study at the German Universities varies according to the requirements for the particular medical degree, but in no case is it less than three years. At some the course extends over four years. The following lectures are the least which will be accepted by any of the University faculties, and may be taken in whatever order the student may wish. The courses occupy nine-and-a-half months in each year. For one year: Chemistry, six hours weekly; Physics, four hours weekly; Zoology and Comparative Anatomy, three hours weekly; Botany, three hours weekly; Mineralogy and Geology, two hours weekly; Anatomy, Histology, and Preparation of Specimens, ten hours weekly; Physiology and Laboratory Work, eight hours weekly; General Pathology, Pathological Anatomy, and Practical Work, six hours weekly; Pharmacology and Toxicology, two hours weekly; for two years: Special Pathology and Medical Clinic at Hospital, ten hours weekly; General and Special Surgery, Hospital Clinics, and Operating, ten hours weekly for one year, or five hours weekly, for two years. This course may not be taken at the same time as the previous medical course. Obstetrics and Gynaecology, with Clinics, three hours weekly for one year; Eye and Ear Clinics, Use of Ophthalmoscope, Operations, four hours weekly, for one year; Forensic Medicine, two hours weekly, for one year.

The professors receive fixed salaries, varying from £120 to £480 annually, and increased every ten years by the addition of from £20 to £50. The students' fees for the entire course vary in different schools from £36 to £52.

REGULATIONS FOR THE GERMAN STAATS-EXAMEN.

THE examination for the licence to practise as a Physician, Surgeon and Accoucheur in any part of the German Empire, may be either passed before the Medical Examination Commission at Berlin or before a Medical Examination Committee at any German University. The Examination Committees, consisting of scientifically educated professional men in all branches of the Faculty, are appointed every year by the authorised Central Board, on whose decision it depends whether the President of the Commission shall be selected from the examiners or not. The notice for examination before the superior Examination Committee must be deposited with the Minister of Medical Affairs at Berlin, and the notice for examination before an Academical Examination Committee with the acting Curator of the University chosen, or, in default of such functionary, with the nearest superior Court of the Examination Commission. To the notice for examination must be attached: 1. A certificate of having completed a course of study at a gymnasium; 2. A certificate of the full course of medical study at an University; 3. A certificate of proficiency at the Natural Science Examination of some German University; 4. Proof that the candidate has taken part and had practice for at least two terms both in Clinical Surgery and in Clinical Medicine, and in Clinical Midwifery has attended at least four separate labours; 5. A testimonial from a public vaccinator, or some other recognised medical man, that the candidate has acquired the necessary dexterity in Vaccination.

The examinations commence every year in November, and are not continued beyond the middle of July in the following year.

Candidates who have not reported themselves at the latest by the end of the year, and who have not deposited the certificates required, are not admitted to examination before the November following. Exceptions to this rule can only be made under very special circumstances.

The examination is divided into five parts, viz.: 1. Anatomical, Physiological, and Pathological; 2. Surgical and Ophthalmic; 3. Medical; 4. Gynaecological; 5. *Viva voce*. All candidates, without exception, must pass these examinations in the above order, and no regard is paid as to what branch of the profession the candidate will devote himself.

In the first portion, the candidate has to write essays on the various subjects, and also to demonstrate on the dead body, and reply to questions put to him.

In the second portion, the candidate has to undergo a clinical and a technical test. The clinical part is conducted in the surgical department of a large hospital, or in the clinic of an University, and usually lasts from seven to nine days, the candidate during this period taking charge of several patients, under the supervision of one of the examiners. During this period, also, the candidate may be required to satisfy the examiners that he can operate on the dead body, and is always required to give his diagnosis in an ophthalmic case.

The third portion of the examination is devoted to medicine, and is purely clinical. The candidate is examined in a hospital or in a clinic of an University, and is required to write prescriptions, and to give his opinion as to the doses of certain drugs given in certain cases of sickness.

The fourth portion consists in an examination conducted in the Charity Lying-in Hospital at Berlin, or in the Lying-in Hospital of an University. The candidate has to examine cases in the presence of an examiner, and to give the diagnosis, prognosis, and treatment. He is also required to attend a case of labour in the presence of an examiner, and to write down his opinion afterwards, stating the exact presentation, etc. He is also required to undertake the treatment of cases during seven days under the superintendence of an examiner.

The fifth portion, the *viva voce* examination, is conducted publicly, under the superintendence of the President of the Examination Commission, by three Commissioners. To this examination, only those candidates will be admitted who have satisfactorily passed the previous portions. This examination includes General and Special Pathology, Therapeutics, Surgery, Midwifery, Pharmacy, and Hygiene. Any candidate who fails to pass these five portions of the examination twice will not be readmitted for fresh examination.

The fee for the examination is fixed at 204 marks (or £10 4s. English money), that is to say:

	£	s.	d.	Marks.
1st portion	2	6	0	= 46
2nd „	3	3	0	= 63
3rd „	1	14	0	= 34
4th „	1	4	0	= 24
5th „	0	6	0	= 6
Expenses...	1	11	0	= 31
	£10	4	0	204

The examinations are always conducted in the German language.

UNIVERSITY OF BERLIN.*

THE conditions for promotion to the Doctorate of Medicine, Surgery, and Midwifery, at the Royal Frederick William University at Berlin, are as follows.

1. Candidates wishing to be admitted to the promotion examination must have studied medicine at least four years in one or more Universities regularly constituted. Universities and Medical Colleges abroad are deemed equivalent to the Universities in Germany.

2. Candidates under 30 years of age who have not matriculated at this University, or who have left previously to their application for promotion, must matriculate again. This can be done free of cost. Both these and matriculated students of this University must, before making application for promotion, take out a preliminary certificate of having left, and will not receive the real certificate until after promotion.

3. The candidate has to make application to the Dean, handing in at the same time the documents mentioned under 1 and 2. He has then to pass a written and verbal preliminary examination before the Dean, to show his capacity, before being admitted to the *examen rigorosum* before the Faculty. The verbal examination is generally conducted in the German or Latin language, and extends, according to the judgment of the Dean, to all branches of theoretical and practical medicine. At the written examination an *ex tempore* essay must be written, without any assistance, in a given time. According to the result of the preliminary examination, the Dean will or will not permit the candidate to be admitted to the *examen rigorosum*.

4. After the preliminary examination, the Dean will lay before the Faculty the documents having reference to the personality and the course of studies of the candidate, the judgment respecting the preliminary examination, and the essay composed thereat. Should that body decide for admission, the Dean will appoint as early a time as possible for the *examen rigorosum*. There are no fixed times for this examination; but, as a rule, there are no examinations held during the vacation in April, August, September, and October.

5. The *examen rigorosum* takes place before six members of the Faculty, is verbal only, and is concluded at one sitting, each of the examiners examining the candidate for a quarter of an hour. No branch of theoretical and practical medicine and surgery is excluded from the examination. It is generally held in German, but, if necessary, in Latin. From this examination no candidate can be exempted. If he be rejected, six months must elapse before re-admission.

6. After this, the candidate must present a German or Latin dissertation, to be criticised by the Faculty. The members of the Faculty are ready to advise the candidate as to the choice of a subject for his essay, and the working up of it, but the essay must be entirely original; and the candidate must declare on oath in writing that he has composed it entirely himself, without any aid from others. If the manuscript be pronounced good by the Faculty, the candidate will have to get printed, at his own expense (about 85 marks), by a certain printer, a prescribed number of copies. It must consist of at

least two quires, and give evidence of a good scientific knowledge. To this must be annexed a brief 'curriculum vitæ', and at least three theses approved by the Dean.

7. After this, follows the public discussion in the Aula of the University, which is immediately connected with the solemn act of promotion. The discussion has reference both to the dissertation and to the theses. Next, the opponents chosen by the candidate, who must be at least three in number, divide on the subject. Their names must appear on the title-page of the dissertation. Afterwards, anyone belonging to the University is at liberty (*e coronâ*) to oppose. Both the candidate and the opponents must be dressed in black on this occasion. The discussion will be either in German or in Latin. The Minister of Education has the privilege of allowing the use of another language, and also of dispensing with the discussion.

8. After the discussion is ended, the oath-taking and promotion of the candidate as a Doctor of Medicine, Surgery, and Midwifery takes place, conducted by the Dean or his representatives. After the ceremony of promotion is completed, the Dean delivers the diploma to the newly created doctor, who inscribes his name in the book of the Faculty. The expense of making out the diploma (15 marks) is borne by the candidate. A copy of it is fixed on the black board of the Faculty, and a certain number of copies are delivered to the Registrar of the University, for distribution. Promotion *in absentia* can on no account take place.

9. Four hundred and forty *reichsmarks* (£22) must be paid to the Dean as fees for the degree of Doctor in Medicine, of which 221 marks must be paid on application, and are forfeited after the *examen rigorosum*, if the candidate be unsuccessful. The second portion (240 marks for the Faculty and 15 marks for the University library) may be paid either at the same time with the other or within the period between the *examen rigorosum* and the promotion. In addition to this, the candidate has to pay expenses of printing the dissertation and diploma (*vide* 6 and 8).

10. The shortest time in which the whole of the proceedings for obtaining a doctor's degree can be gone through is ten days. In this case, however, it is stipulated that the dissertation be delivered ready for printing to the Dean at the first application, and that the other business of the Faculty permits them to proceed at once to the examinations. As a rule, such a rapid succession of all the proceedings cannot be depended upon.

The Medical Faculty of this University consists of the following professors, with between forty and fifty *docents* or private teachers. *Ordinary Professors*: B. von Langenbeck, Surgery and Clinical Surgery; K. B. Reichert, Anatomy; A. Bardeleben, Surgery and Clinical Surgery; R. Virchow, Pathology; F. T. Frerichs, Medicine and Clinical Medicine; E. Du Bois-Reymond, Physiology; A. Hirsch, Medicine and Epidemiology; E. Leyden, Medicine and Clinical Medicine; C. Schröder and A. Gussow, Obstetrics and Gynaecology; O. Liebreich, Materia Medica and Chemistry; C. Schweigger, Diseases of the Eye and Ophthalmic Clinic; C. Westphal, Psychology and Psychiatric Clinic. *Extraordinary Professors*: E. Henoch, Diseases of Children; E. Gurlt, Practical Surgery; C. Liman, Forensic Medicine; C. Skrzeczka, Hygiene; J. Meyer, Medicine; R. Hartmann, Anatomy; G. Lewin, Dermatology and Syphilology; H. Jacobson, Medicine; E.

* For much of the information in this and subsequent pages, we are indebted to Dr. Hardwicke's *Medical Education and Practice in all Parts of the World*.

Albrecht, Dental Surgery; H. Munk, Physiology; L. Waldenburg, Physical Diagnosis; A. Lucae, Aural Surgery; E. Salkowski, Chemistry; G. Fritsch, Physiology; O. Frantzel, Medicine; H. Senator, Diseases of Children; F. Busch, Surgery; H. Kronecker, Physiology; H. Fasbender, Gynaecology; H. L. Schöler, Ophthalmology; J. Hirschberg, Ophthalmology; R. U. Kröniein, Surgery; E. Küster, Surgery. The following professors also give instruction in subjects connected with medicine in the Philosophical Faculty. *Ordinary Professors*: S. Schwendener, Botany; H. Helmholtz, Physics; W. Peters, Zoology; A. W. Hofmann, Chemistry; A. W. Eichler, Botany; C. Rammelsberg, Chemistry. *Extraordinary Professors*: A. Garcke, Botany; L. Kny, Botany; P. Ascherson, Botany; E. von Martens, Zoology; E. Sell, Chemistry; A. Pinner, Chemistry and Pharmacy; C. Liebermann, Chemistry.

The institutions for Clinical treating connected with the University are: Professor von Langenbeck's Clinic for Surgery; the University Polyclinic (Dr. J. Meyer); the Ophthalmic Polyclinic (Dr. Schweigger); the Aural Clinic (Dr. Lucae); the Obstetric Clinic (Dr. Schroeder); the Institute for Practical Instruction in State Medicine (Dr. Liman); and, in the Charité Hospital, the Medical Clinic (Dr. Frerichs), the Clinic for Elementary Medical Instruction (Dr. Leyden), the Surgical Clinic (Dr. Bardeleben), the Ophthalmic Clinic (Dr. Schweigger), the Obstetric Clinic (Dr. Gusserow), the Gynaecological Clinic (Dr. Schroeder), the Clinics for Diseases of the Skin and Syphilis (Dr. Lewin), for Diseases of Children (Dr. Henoch), and for Diseases of the Mind and Nervous System (Dr. Westphal). The Pathological Institute is under the direction of Professor Virchow; the physiological laboratory under that of Professor Du Bois-Reymond; and the chemical laboratory under that of Professor Hofmann. The Pathological Institute, which owes its existence in its present form to Professor Virchow, and has served as the model for numerous similar institutions in Germany and elsewhere, is situated within the grounds of the Charité Hospital. It contains a lecture-theatre, a room for demonstrations, a museum, a chemical laboratory, a histological laboratory, a suite of rooms for the *post mortem* examinations, private rooms for the professor and his assistants, while in the basement floor there are kept animals for experiment.

UNIVERSITY OF BONN.

A DEGREE in Medicine, Surgery, and Midwifery, is granted only under the following conditions, viz.:

1. An examination in all branches of medicine and surgery, of about three hours' duration, in the German language.
2. A written scientific dissertation in German or Latin.
3. Public defence of the dissertation in German or Latin.
4. Fee for the examination and diploma, 360 marks (£18), which must be paid prior to examination.

The following are the Professors in the Medical Faculty of this University. *Ordinary Professors*: C. Binz, Materia Medica; W. Busch, Surgery; C. Köster, Pathology; Baron A. de la Valette St. George, Anatomy and Histology; F. von Leydig, Comparative Anatomy; E. Pflüger, Physiology; H.

Rühle, Medicine; T. Sämisch, Diseases of the Eye; G. Veit, Gynaecology and Forensic Medicine. *Extraordinary Professors*: J. Doutrelepont, Surgery; C. von Mosengeil, Surgery; F. Obernier, Diseases of Children; H. Schaaffhausen, Physiology; N. Zuntz, Anatomy and Histology. Instruction is also given in the Philosophical Faculty—*Ordinary Professors*: F. H. Troschel, Zoology; R. Clausius, Experimental Physics; J. von Hanstein, Botany; and A. Kekulé, Chemistry. *Extraordinary Professor*: O. Wallach, Chemistry.

Connected with the University are medical, surgical, obstetric, and ophthalmic clinics; and anatomical, physiological, pathological, pharmacological, and chemical institutes.

UNIVERSITY OF BRESLAU.

THE following Professors belong to the Medical Faculty of this University. *Ordinary Professors*: A. Biermer, Medicine; E. Ponfick, Pathology; H. Fischer, Surgery; R. Förster, Ophthalmology; H. Häser, Materia Medica and Therapeutics; C. Hasse, Anatomy; R. P. H. Heidenhain, Physiology; O. Spiegelberg, Obstetrics and Gynaecology. *Extraordinary Professors*: L. Auerbach, Comparative Anatomy; H. Cohn, Ophthalmology; H. Friedberg, Forensic Medicine and Public Health; R. Geschiedlen, Physiology and Physiological Chemistry; K. I. Klopsch, Surgery; O. Simon, Diseases of the Skin and Syphilis; H. Neumann, Psychological Medicine; E. Richter, Surgery; R. Voltolini, Diseases of the Ear; L. Hirt, Hygiene; H. Sommerbrodt, Medicine; O. Berger, Medicine. There are also about fifteen private teachers. Instruction is also given in the Philosophical Faculty on subjects connected with medicine by—*Ordinary Professors*: C. J. Löwig, Chemistry; H. R. Göppert, Pharmacology; A. E. Grube, Zoology; O. E. Meyer, Experimental Physics; T. Poleck, Chemistry; F. Cohn, Botany. *Extraordinary Professor*: F. E. Dorn, Physics; V. von Richter, Chemistry.

The University possesses anatomical, physiological, pathological, pharmaceutical institutes, and clinics of medicine, surgery, obstetrics, ophthalmic surgery, syphilis, and skin diseases, and mental diseases.

UNIVERSITY OF ERLANGEN.

THE following are the regulations to be observed by candidates for the degree of Doctor of Medicine in this University.

1. Candidates for the degree of Doctor must announce their intention to the Dean of the Faculty of Medicine, and present the following documents: *a*. Evidence of having gone through the curriculum in a German gymnasium, or proof of equivalent general education; *b*. Proof of having studied medicine in one of the German Universities, or in a corresponding medical school abroad, during at least three years; *c*. A Thesis, composed by the candidate, on some subject in medicine or natural science, with a written declaration, on word of honour, that the work is absolutely the candidate's own.

2. The dissertation is examined by a referee, appointed by the dean; and, if it be judged to be of sufficient merit, the candidate is admitted to an oral examination, which is conducted in the German language. It may take place in two forms; *a*. As a colloquium, in the case of those who have passed

an examination in medicine before a German examining board; *b.* As an extended examination on all departments of medical science, in the case of those who have not passed such an examination. The colloquium takes place under the presidency of the dean before three delegates of the Faculty; the detailed examination is conducted by the dean and four other members of the Faculty. Both the colloquium and the latter examination are held in public, and in German.

3. After the conclusion of the oral examination, the examiners decide on the result. If the decision be favourable, the degree of Doctor is at once conferred, the fact being communicated to the candidate by the dean, and his diploma issued to him.

4. The candidate, if his dissertation be approved, must have it printed at his own expense. At the back of the title-page it must be stated that the dissertation is printed with the consent of the Faculty; and the name of the reporter (*referent*) must be given.

5. The candidate must pay a fee of 300 marks (equal to about £15 10s.) for the granting of the Doctor's degree, and must also deliver 150 copies of his dissertation to the Faculty.

6. If the candidate fail to pass the examination, half of the fee is returned to him.

The Medical Faculty of this University consists of the following professors and teachers. *Ordinary Professors*: J. von Gerlach, Anatomy; F. A. Zenker, Pathology; W. Heineke, Surgery; I. Rosenthal, Physiology; W. O. Leube, Practice of Medicine and Clinics; H. Sattler, Ophthalmology; P. Zweifel, Midwifery. *Extraordinary Professors*: H. Trott, Materia Medica and Hygiene; A. Wintrich, Medicine and Laryngology; F. W. Hagen, Psychological Medicine; W. Filehne, Materia Medica and Therapeutics. Instruction in subjects connected with medicine is also given in the Philosophical Faculty. *Ordinary Professors*: E. Lommel, Experimental Physics; J. Volhard, Chemistry; M. Reess, Botany; E. Selenka, Comparative Anatomy; A. Hilger, Pharmacy and Chemistry.

In connection with the University are the following institutions: the University Hospital, with medical, surgical, obstetric, psychiatric, and ophthalmic clinics; an anatomical, a physiological, and a pathological institute.

UNIVERSITY OF FREIBURG.

THE Faculty of Medicine here grants a degree in Medicine, Surgery, and Midwifery. The following are the conditions to be observed before being admitted to examination.

1. A certificate must be produced showing the respectability of the candidate, and also the amount of his education, both prior to and since his admission as a medical student.

2. A scientific dissertation must be handed to the Dean, written in German or Latin.

3. A fee of 300 marks (£15) must be paid to the Chief Beadle. In case of rejection, the candidate will receive half the fee back; and when he presents himself for examination again, he pays only that amount, viz., 150 marks.

Should these conditions be complied with, and the thesis be deemed satisfactory, the candidate will be admitted to a *viva voce* examination in the German language.

The following are the subjects for examination:

Anatomy, Materia Medica and Toxicology, Physiology, Medicine, Surgery, Pathological Anatomy, Midwifery, Ophthalmology.

If a candidate have already passed an examination as Physician before a German commission of examiners, the number of subjects may be reduced.

If the examination be passed, one of the following grades of honour is conferred: 1. Summâ cum laude; 2. Insigni cum laude; 3. Cum laude.

The Medical Faculty of the University is thus constituted. *Ordinary Professors*: A. Ecker, Human and Comparative Anatomy; L. von Babo, Chemistry and Physiology; R. Maier, Pathological Anatomy and State Medicine; A. Hegar, Midwifery; F. Hildebrand, Botany; W. Manz, Ophthalmology; Ch. Bäumler, Materia Medica and Medicine; G. F. L. Thomas, Materia Medica and Medicine; H. Maas, Surgery. *Extraordinary Professors*: A. Schinzing, Surgery; R. Kaltenbach, Midwifery; J. Latschenberger, Physiological Chemistry and Practical Physiology; R. Wiedersheim, Anatomy and Histology; A. Röhrig, Pharmacology; E. Ziegler, Pathological Anatomy; P. Langerhans, J. von Rotteck. There are also several *privat-docents*.—In the Philosophical Faculty, lectures on subjects connected with medicine are given by Professors A. Weismann in Zoology, A. Claus in Chemistry, and E. Warburg in Experimental Physics.

The University library contains 250,000 volumes. There are a chemical laboratory and institutions for the practical study of anatomy, pathology, physiology, etc.; and medical, surgical, obstetric, and ophthalmic clinics.

UNIVERSITY OF GIESSEN.

THE Faculty of Medicine grants a degree in Medicine, Surgery, and Obstetrics, which can only be obtained on the following conditions.

1. A *curriculum vitæ*, written by himself, must be sent to the Faculty by the candidate; also a certificate of gymnasial maturity, and a certificate of at least three years' medical and surgical study at a University or a Medical Institution. If the candidate be not a native of Germany, he must produce a certificate of sufficient preliminary studies from his own country in place of the gymnasial maturity certificate (a degree in arts or certificate of having passed the matriculation examination for medical students at any recognised University is sufficient).

2. The candidate must present a dissertation on some medical subject, written in German or Latin, together with a declaration in his own handwriting that he has composed the dissertation himself, without help from others, except what may be stated by him. In place of the dissertation, a previously published treatise or literary production may be substituted.

3. In case of admission by the Faculty, the whole of the documents are laid before the Rector and the Chancellor, who may object to the admission if they be not satisfied.

4. If no objection be made by the Rector and Chancellor, and the candidate have paid the promotion fees to the Quæstor of the University, the dissertation is to be judged by a Referee. If the Referee declare the work to be unsatisfactory, the candidate is rejected. In the contrary case, he is admitted to *viva voce* examination before the Faculty.

5. The *viva voce* examination takes place in the

German language, and lasts two or three hours. It is held in public, except when the candidate is already advanced in age, or in a few other cases when the Faculty decree that it may be held in private.

6. The verbal examination embraces the following subjects: Anatomy, Physiology, Pathological Anatomy, Histology, Pathology and Medicine, Materia Medica and Therapeutics (including Toxicology), Surgical Pathology and Surgery, Forensic Medicine, Obstetrics.

7. Immediately after the conclusion of the examination, the result is decided on by the President and examiners in a private sitting, and at once made known to the candidate by the President. The examination is not passed when two or more members of the Faculty declare the result of the examination to have been unsatisfactory. The kind of degree to be granted is decided by a majority of votes—whether 'cum laude', 'magnâ cum laude', or 'summâ cum laude'.

8. The approved dissertation must be printed and published, and the appointed number be presented to the Faculty before the promotion take place. Exception is made when the candidate has already handed in a printed treatise.

9. Promotions to the M.D. *in absentia* do not take place at this University, except in the case of degrees granted *honoris causâ* by the unanimous decision of the Faculty, to men who have rendered some great service to the science of medicine.

10. The fee for promotion is 440 marks (£22), which must be paid to the Quæstor of the University at the time of the petition for admission. If the dissertation be not considered satisfactory, and the candidate in consequence be not admitted to the verbal examination, 100 marks are retained by the Faculty, and the rest returned to the candidate. If the verbal examination be not passed, then half the fees are forfeited; but, if the candidate present himself again, in this case he has only to pay half the fees.

11. At the end of the year, the Rector for the time being has to publish in the Hessian Grand Ducal Government Newspaper, and in some other national newspaper chosen by the University, the promotions that have taken place during his rectorship, with the position in life of those promoted.

The following are the professors in the Faculty of Medicine in this University. *Ordinary Professors:* H. Bose, Surgery; J. Wilbrand, Forensic Medicine and Hygiene; C. Eckhard, Physiology and Toxicology; F. Riegel, Medicine; F. Kehrner, Obstetrics and Gynæcology; G. Pflug, Veterinary Medicine; M. Perls, Pathology; F. W. von Hippel, Ophthalmology. *Extraordinary Professors:* F. Birnbaum, Diseases of Children; F. Eichbaum, Veterinary Medicine. There are also three *doctents*. In the Philosophical Faculty, subjects connected with medicine are taught by—*Ordinary Professors:* H. Will, Chemistry; H. Hoffmann, Botany; A. Schneider, Zoology. *Extraordinary Professors:* A. Naumann, Chemistry; A. Laubenheimer, Chemistry.

The University Library contains 140,000 volumes. There are an academical hospital, with medical, surgical, and ophthalmic clinics, a lying-in institution, a chemical laboratory, a physiological and a pathological institute.

UNIVERSITY OF GÖTTINGEN.

A DEGREE in Medicine, Surgery, and Obstetrics is granted under the following conditions.

1. A written essay must be sent in on any medical subject chosen by the candidate, on the result of which depends the entrance to the examination.

2. If the essay be considered satisfactory, the student is admitted to a *viva voce* examination, which lasts a few hours, and is always held in German or Latin, at the option of the candidate.

3. A fee of 439 marks (£21 19s.) must be paid to the Medical Faculty prior to examination.

4. The subjects of examination are Anatomy and Morbid Anatomy, Physiology, Pharmacology, General Pathology and Medicine, Surgical Pathology and Surgery, Toxicology, Medical Jurisprudence, and Obstetrics.

If the candidate be successful, he receives a diploma, and promises to hold his academical honour with dignity.

The Medical Faculty of this University consists of the following professors, with private teachers.

Ordinary Professors: J. Henle, Anatomy; F. Wohler, Chemistry; G. Meissner, Physiology; H. Schwartz, Midwifery and Diseases of Women; L. Meyer, Psychological Medicine; Th. Leber, Ophthalmology; W. Ebstein, Medicine; W. Marmé, Materia Medica; F. König, Surgery; J. Orth, Pathology. *Extraordinary Professors:* H. Eichhorst, Medicine and Diseases of Children. C. F. Lohmeyer, Surgery; J. Rosenbach, Surgery; W. Krause, Physiology; E. A. W. Himly, Forensic Medicine and Histology; E. F. W. Herbst, Physiology; H. Eichhorst, Medicine; T. Husemann, Materia Medica and Toxicology. In the Philosophical Faculty instruction is given by—*Ordinary Professors:* J. Reinke, Botany; F. Ehlers, Zoology; the Count of Solms-Laubach, Botany. *Extraordinary Professors:* C. Boedeker, Physiological Chemistry; L. von Uslar, Organic and Pharmaceutical Chemistry; E. Riecke, Experimental Physics; B. Tollens, Chemistry.

The following institutions are connected with the Medical Faculty: institutions for teaching animal and vegetable physiology and pharmacology, and pathology; the Ernst-August hospital; a lying-in hospital; a psychiatric clinic in the Lunatic Asylum; a chemical laboratory; and a veterinary institute.

UNIVERSITY OF GREIFSWALD.

THE Medical Faculty of this University consists of the following professors and teachers. *Ordinary Professors:* J. Budge, Anatomy; H. C. A. Pernice, Midwifery and Diseases of Women; F. Grohé, Pathological Anatomy; F. Mosler, Pathology and Therapeutics; C. Hüter, Surgery; L. Landois, Physiology; R. Schirmer, Ophthalmic Surgery; A. Eulenburg, Materia Medica. *Extraordinary Professors:* C. Eichstedt, Diseases of the Skin and Syphilis; W. Häckermann, Forensic Medicine and Hygiene; R. Arndt, Psychology and Nervous Diseases; P. Vogt, Surgery; P. Krabler, Diseases of Children. There are also several *doctents*. Instruction is given in the Philosophical Faculty by—*Ordinary Professors:* A. H. A. J. Münter, Botany; H. Limpricht, Chemistry; H. Schwanert, Chemistry; A. Gerstäcker, Comparative Anatomy and Zoology. *Extraordinary Professor:* F. Baumstark, Chemistry.

The University Hospital contains medical, surgical, ophthalmic, and obstetric clinics.

UNIVERSITY OF HALLE.

THE following are the regulations for the medical degree.

1. Application for admission to the examinations for medical promotion must be made to the Dean, and at the same time must be presented: (a) a *curriculum vitæ*; (b) certificate of maturity from a gymnasium; (c) certificate of having passed a *ten-tamen physicum* at least two years previously; (d) certificates of leaving, from the Universities, over at least eight medical scholastic half years. Whoever is unable to present these certificates complete, and in the manner specified, must obtain a dispensation from the Chief Manager, through the University's Curatorium.

2. On making application, 360 marks must be paid to the Dean for the examinations and the promotion, besides which, 12 marks must be paid before the promotion to the Secretary of the University.

3. The examinations are held on two consecutive days, by the regular professors of the Faculty, on each of which days the result of the examination is made known to the candidate.

4. After passing his examination, the candidate must compose a scientific treatise on any subject he pleases in medical science, and deliver it to the Dean as an inaugural dissertation, together with the theses, to be publicly discussed, and the *curriculum vitæ* for examination and approval; the same when printed must fill at least two quires. The candidate must bear the cost of printing both the treatise and the diploma; but the diploma must be laid before the Dean for approval before being printed. Of the treatise, 172 copies must be delivered to the Secretary of the University at least three days before the promotion, and 40 copies of the diploma, when the Secretary will give a receipt in the name of the Dean, and also for the 12 marks mentioned under No. 2.

5. The candidates have to request all the examiners personally to be present at the examination, likewise the members of the Faculty, when handing over the printed treatise for promotion.

6. In the application for promotion, the candidate solicits from the Dean, in a few preliminary words, permission to defend his treatise and the theses; and this takes place, then, against two previously appointed opponents; after which, those present (both from within and without the boundaries), are also called upon to join in the discussion). After the discussion is ended, the candidate begs the Dean to grant him the degree of Doctor; and this is done by administering the doctoral oath, and delivering the diploma.

7. Whoever fails to pass the examination, which includes all branches of medicine and surgery, will receive back from the fees paid 40¼ marks; the rest goes to the Faculty.

8. The time for taking the degree is left for the candidate to appoint. He must not, however, exceed one year from the time of passing the examination to the taking of the degree, or else he will have to submit to re-examination, and must pay over again all the fees.

The following professors, with several private teachers, constitute the Medical Faculty of this University. *Ordinary Professors*: J. Vogel, Medicine;

L. Krahmer, *Materia Medica* and *Forensic Medicine*; Th. Weber, *Medicine*; R. Olshausen, *Obstetrics* and *Gynaecology*; Th. Ackermann, *Pathology*; H. Welcker, *Anatomy*; R. Volkmann, *Surgery*; J. Bernstein, *Physiology*; A. Gräfe, *Ophthalmology*; F. E. W. Steudener, *Histology*; E. Hitzig, *Psychological Medicine*. *Extraordinary Professors*: H. Schwartze, *Diseases of the Ear*; O. Nasse, *Physiology*; E. Kohlschütter, *Medicine*; H. Fritsch, *Gynaecology*. In the Philosophical Faculty, instruction in Sciences connected with Medicine is given by—*Ordinary Professors*: W. H. Heintz, *Chemistry*; C. Giebel, *Zoology*; G. Kraus, *Botany*. *Extraordinary Professors*: B. Rathke, *Chemistry*; E. Schmidt, *Pharmaceutical Chemistry*.

The University library contains 100,000 volumes. Connected with the University are a chemical laboratory, a botanical garden, a zoological museum, an anatomical theatre and zootomical museum, a lying-in institution, a medico-chirurgical hospital, and physiological, pathological, and pharmaceutical laboratories.

UNIVERSITY OF HEIDELBERG.

THE following are the regulations to be observed for graduation in medicine in this University.

1. In applying for examination for the degree of Doctor, no evidence of a previous course of study is required.

2. The same demands are made of all candidates; the only difference is that the oral examination is shortened if evidence be produced that the candidate has undergone, in the German empire, the *Staats-examen* for license to practise.

3. The subjects of examination are (1) *Anatomy*; (2) *Physiology*; (3) *Pathological Anatomy*; (4) *Materia Medica* (*Pharmacognosics*, *Pharmacodynamics*, and *Toxicology*); (5) *Medicine*; (6) *Surgery*; (7) *Midwifery*; (8) *Ophthalmic Surgery*.

4. A candidate may select one of these as the principal subject of his examination. All the other subjects then become secondary.

5. The examination is oral and written. The oral examination can only be conducted in the German language.

6. The written part of the examination consists of a medical dissertation in German or Latin, which must be given in before the oral examination. The dean of the Faculty of Medicine delivers the dissertation (or a scientific publication by the candidate, which may be substituted for it) to a reporter for his opinion. The reporter is authorised to hold a conversation with the candidate on the subject treated of in the work. In voting on the dissertation, the question is put whether it shall be allowed to be printed. If it be printed, the names of the dean for the time being, and of the reporter, must appear on the title-page.

7. The oral examination comprises the principal subject chosen by the candidate, and a certain number of the secondary subjects. The number and selection of the secondary subjects vary, according as the state-examination has or has not been passed. If proof be given that a state-examination has been passed in the German Empire, the candidate is examined in the principal subject, and in three of the secondary subjects, selected by himself. If there be no proof of a state-examination, he is examined in five secondary subjects. Of these, three are fixed—*Anatomy*, *Physiology*, and *Pathological Anatomy*; the other two may be chosen by the candidate. But

if one of the three fixed subjects be chosen by the candidate as the principal subject, its place as a secondary subject is taken by another, selected by the candidate.

8. The duration of the oral examination depends on the number of subjects. The candidate is examined on the principal subject for thirty minutes, on each secondary one for fifteen or twenty minutes, according to the judgment of the examiners.

9. On the result of the entire examination, three notes are granted. The first (*summâ cum laudè*) can only be granted when the dissertation has received the *imprimatur* of the Faculty. Even when the *imprimatur* has been received, the result of the oral examination may be such to entitle the candidate to the second vote (*insigni cum laudè*) or to the third (*cum laudè*).

10. No oath is administered. When the diploma is delivered to the candidate by the dean, he has to give his hand in promise that he will bear his academic dignity with honour.

11. The cost of the examination, exclusive of that of the diploma, amounts in all to 444 marks (about 22*l.* 5*s.*), which must be paid before the commencement of the examination. Of this sum, if the oral examination be not passed, 179 marks (about 9*l.*) are returned.

12. The diploma contains a record of the principal subject, the vote on the whole examination, and the judgment on the dissertation.

The Medical Faculty consists of the following professors, with several teachers. *Ordinary Professors*: W. Lange, Midwifery; W. Delffs, Chemistry; N. Friedreich, Medicine; C. Gegenbaur, Human Anatomy and Embryology; W. Kühne, Physiology and Histology; O. Becker, Ophthalmology; Th. von Dusch, Medicine; J. Arnold, Pathology; V. Czerny, Surgery; C. Fürstner, Psychological Medicine. *Honorary Professor*: A. Nuhn, Human and Comparative Anatomy. *Extraordinary Professors*: H. Oppenheimer, Therapeutics; S. Moos, Diseases of the Ears; F. Knauff, Forensic Medicine and Hygiene; H. Lossen, Surgery; A. Weil, Medicine and Diseases of the Skin, and Syphilis; R. Thoma, Pathological Anatomy; H. Braun, Surgery. In the Philosophical Faculty, instruction in subjects connected with medicine is given by—*Ordinary Professors*: R. Bunsen, Chemistry; H. Kopp, Chemistry; G. Quincke, Experimental Physics; O. Bütschli, Zoology; E. Pfützer, Botany. *Extraordinary Professors*: A. Bornträger, Pharmacy; A. Horstmann, Chemistry; R. Kossmann, Zoology.

In connection with the University are a hospital, with medical, surgical, and ophthalmic clinics, an institution for diseases of the ear, a lying-in institution, anatomical, pathological, physiological, and zoological institutes, two chemical laboratories, and a botanical garden.

UNIVERSITY OF JENA.

THE Faculty of Medicine of this University grants a degree in Medicine, Surgery, and Obstetrics, the conditions for which are as follows:

1. Certificate to be given as to the extent of medical studies, and the period of time which has elapsed since their completion (at least six terms).
2. Satisfactory evidence as to character, from the neighbouring head office of police.
3. A written essay upon any subject of medical science, in German or Latin. The same composi-

tion may be given up, to be printed afterwards in the form of a dissertation.

4. Matriculation into this University. This is done when, upon fulfilment of the other conditions, the candidate himself makes his appearance.

5. Payment of examination and promotion fees must be made to the amount of 141 *thalers* (about £22). In case the examination is not passed, the promotion fees and 52 *thalers* are returned.

The examination will be held in the German language only. It comprises all branches of medicine, viz.: Anatomy, Physiology, Histology, General Pathology, Pathological Anatomy, Special Pathology, Medicine, Therapeutics, Surgery, Obstetrics, etc.

The Faculty holds examinations from the first day of November to the 15th day of March, and from the first day of May to the 15th day of August.

When the examination is passed, the student has to give in his dissertation, the subject of which he chooses for himself. The Faculty examines the work to see whether it is worth publication. A dispensation from the Latin or German disputation may be granted when the examination is very satisfactorily passed.

After the essay is printed, and also when the public disputation is over, the making out of the medical diploma takes place.

The degree of Doctor will only be granted in this University by the Faculty upon fulfilment of the above-named conditions.

The Medical Faculty of this University is constituted as follows. *Ordinary Professors*: F. Ried, Surgery; B. Schultze, Obstetrics; W. Müller, Pathology; W. Preyer, Physiology; G. Schwalbe, Anatomy; H. Nothnagel, Medicine. *Honorary Professor*: M. Seidel, Materia Medica. *Extraordinary Professors*: L. Schillbach, Diseases of the Eye and Ear; F. Siebert, Psychology; C. Frommann, Helminthology and Histology; C. Bardeleben, Anatomy; O. Hertwig, Anatomy; P. Fürbringer, Diseases of the Skin and Syphilis; O. Küstner, Gynaecology. Subjects connected with Medicine are also taught in the Philosophical Faculty by—*Ordinary Professors*: G. A. Genthner, Chemistry; E. Häckel, Zoology; E. Strasburger, Botany. *Extraordinary Professors*: E. Reichardt, Chemistry; E. Hallier, Botany; R. Hertwig, Zoology; H. Gutzeit, Chemistry and Pharmacy.

Connected with the University are the Grand-Ducal hospital, lying-in institution, and lunatic asylum; anatomical, zoological, physiological, pathological, and chemical laboratories and museums, etc.

The fees are 5 *marks* a lecture for the whole of the session. Clinics and Demonstrations the same, as a rule.

UNIVERSITY OF KIEL.

THE following are the conditions for obtaining the medical degree:

1. The presentation on application of (a) a *curriculum vitæ*; (b) certificate of medical studies; (c) a scientific treatise;
2. A written examination;
3. A verbal examination before the Faculty;
4. Payment of 360 *marks*.

In this University the Medical Faculty consist the following professors, with five private teachers. *Ordinary Professors*: C. C. T. Litzmann, Obstetrics

and Gynæcology; F. Esmarch, Surgery; H. Quincke, Medicine; V. Hensen, Physiology; A. Heller, Pathology; C. Völckers, Diseases of the Eye; W. Flemming, Anatomy. *Extraordinary Professors*: J. Bockendahl, Forensic Medicine; G. J. F. Edlefsen, Medicine; F. Petersen, Surgery; A. Pansch, Anatomy; F. A. Falck, *Materia Medica*. Instruction is also given in the Philosophical Faculty by *Ordinary Professors*: C. Himly, Chemistry; K. Möbius, Zoology; A. Engler, Botany; A. Ladenburg, Chemistry.

There are a medico-chirurgical hospital, a lying-in institution, and laboratories and museums in connection with the several subjects taught.

UNIVERSITY OF KÖNISBERG.

THE Medical Faculty of this University consists of the following professors, with eleven private teachers.

Ordinary Professors: G. Hirsch; W. von Wittich, Physiology; H. Hildebrandt, Obstetrics; C. Kupffer, Anatomy; E. Neumann, Pathology; C. Schönborn, Surgery; B. Naunyn, Medicine; J. Jacobson, Ophthalmology; M. Jaffe, *Materia Medica*. *Extraordinary Professors*: H. Bohn, Diseases of the Skin; A. W. Grünhagen, Histology; S. Samuel, Therapeutics; S. Pincus, Forensic Medicine; E. Berthold, Diseases of the Eye and Ear; F. R. A. Schneider, Surgery and Military Surgery; H. Benecke, Anatomy; E. Burow, Surgery; J. Caspary, Diseases of the Skin and Syphilis. Lectures are also given in the Philosophical Faculty by—*Ordinary Professors*: R. Caspary, Botany; G. Zaddach, Zoology; H. Spürgatis, H. Ritthausen, and W. Lossen, Chemistry.

Connected with the University are anatomical, pathological, and physiological institutions, medical, surgical, obstetrical, and ophthalmic clinics; chemical and pharmaceutical laboratories, etc.

UNIVERSITY OF LEIPZIG.

THE Medical Faculty of this University consists of the following professors and a number of private teachers. *Ordinary Professors*: J. Radius, Hygiene and Pharmacology; F. Hofmann, Experimental Hygiene; E. Wagner, Medicine; C. S. F. Crédé, Midwifery; J. Cohnheim, Pathological Anatomy; C. Ludwig, Physiology; C. Thiersch, Surgery; E. A. Coccus, Ophthalmology; W. His, Anatomy; C. W. Braune, Topographical Anatomy; W. Erb, Medicine. *Extraordinary Professors*: H. Sonnenkalb, Forensic Medicine and Hygiene; J. V. Carus, Zoology and Comparative Anatomy; A. Winter, *Materia Medica*; C. Hennig, Obstetrics; C. H. Reclam, Forensic Medicine and Hygiene; B. G. Schmidt, Surgery; E. F. Wenzel, Anatomy and Histology; J. O. L. Heubner, Medicine; E. R. Hagen, Otolaryngology, etc.; A. R. Brenner, Diseases of the Nervous System; J. F. Ahlfeld, Obstetrics; P. E. Flechsig, Anatomy and Histology; E. Drechsel, Physiology; C. Weigert, Medicine; A. Rauber, Anatomy. Instruction is also given in the Philosophical Faculty by—*Ordinary Professors*: W. Hankel, Physics; H. Kolbe, Chemistry; A. Schenck, Botany; R. Leuckart, Zoology; G. Wiedemann, Chemistry. *Extraordinary Professor*: H. Hirzel, Pharmacy.

In connection with the University are chemical, physico-chemical, and pathologico-chemical laboratories; a zoological institute, under the direction of Professor Leuckhardt; an anatomical institute, under Professor His; a physiological institute, under Professor Ludwig; and various clinics, etc.

UNIVERSITY OF MARBURG.

ANY one wishing to proceed to the medical degree at this University must send in to the Dean of the Faculty of Medicine the following:

1. A *curriculum vitæ*;
2. A certificate of scientific studies;
3. A certificate of at least four years' study at a recognised University or Medical College;
4. A dissertation in the German language.

If these be considered satisfactory by the Faculty, the candidate is then admitted to a *vivâ voce* examination in the German language. If the examination be satisfactorily passed, the dissertation must be printed, at the candidate's expense, and publicly defended. Three or four printed theses must also be sent in. The cost for the diploma is 330 marks (16*l.* 10*s.*)

The following are the professors in the Medical Faculty of this University. *Ordinary Professors*: C. F. von Heusinger, Pathology and Therapeutics; H. Nasse, Physiology; W. Roser, Surgery; C. P. Falck, Medicine; R. Dohrn, Midwifery; N. Lieberkühn, Anatomy; F. W. Benecke, Pathological Anatomy and General Pathology; E. Mannkopff, Pathology and Therapeutics; H. Schmidt-Rimpler, Ophthalmology; H. Kramer, Psychology; E. Külz, Physiology. *Extraordinary Professors*: G. Wägener, Anatomy; H. Horstmann, Forensic Medicine; H. Lahs, Midwifery. Lectures are also given in the Physiological Faculty by—*Ordinary Professors*: C. Zwenger, Pharmaceutical Chemistry; A. Wigand, Botany; R. Greeff, Zoology; T. Zincke, Chemistry.

A hospital and various laboratories, etc., for practical instruction are connected with the University.

UNIVERSITY OF MUNICH.

IN granting medical degrees at this University, a distinction will in future be made between those candidates who have already passed a satisfactory public examination as Physicians before a German Commission of Examiners, and those who have not, be they natives or foreigners.

From those candidates who have already passed the satisfactory German examination, nothing further is required in order to admit them to compete for the doctorate than the certificate of having passed such examination. The Medical Faculty dispenses such candidates from a repetition of an examination of that kind, as the having passed satisfactorily that examination shows that they have fulfilled all the necessary stipulations, and that they possess the requisite theoretical and practical knowledge.

The Faculty requires, however, the presentation of a dissertation, written in either the Latin or German language. This is delivered by the Dean to one of the members of the Faculty for examination and judgment, and with his judgment it is circulated amongst the Faculty. If the Faculty approve of it, then it is printed at the expense of the candidate, for the members of the Faculty.

Candidates, however, who have not passed the German 'Approbation-examination' for Physicians must, before being admitted to the doctorate examination, present to the Medical Faculty the following:

1. A gymnasial certificate, or at least such certificate as shows that the candidate has enjoyed a regular education;

2. Certificates of at least four years' attendance at an university or medical institution, and of attendance at the lectures on the principal branches of natural science and medicine;

3. Clinical certificates of the treatment of an internal surgical and eye complaint, and also assistance at a birth;

4. A certificate of the performance of an operation on the dead body, and the application of a bandage;

5. The candidate must then pass a two hours' verbal examination (in the German language) in the following branches, viz.: Anatomy, Physiology, General Pathology and Pathological Anatomy, Materia Medica, Therapeutics, Surgery, Midwifery, Hygiene, Diseases of the Eye;

6. The candidate has also to give in a dissertation, which must be examined by a member of the Faculty to see whether it is worthy of being printed. The printing may be dispensed with at the request of the candidate.

7. The fees for examination and promotion amount, for both kinds of candidates, to 100 *thalers*, 300 *marks*, or 175 *florins* (15*l.*)

The professorial staff of the Medical Faculty of this University is constituted as follows. *Ordinary Professors*: F. N. von Gietl, Medicine; F. C. von Rothmund, Surgery and Clinical Surgery; C. T. von Siebold, Zoology and Comparative Anatomy; F. Seitz, Materia Medica; L. A. Buchner, Pharmacy; M. von Pettenkofer, Hygiene; W. F. C. von Hecker, Midwifery; L. von Buhl, General Pathology and Pathological Anatomy; J. N. von Nussbaum, Surgery and Clinical Surgery; A. von Rothmund, Ophthalmology; C. von Voit, Physiology; H. von Ziemssen, Special Pathology and Therapeutics; B. von Gudden, Psychology. *Extraordinary Professors*: N. Rüdinger, Anatomy; O. Bollinger, Hygiene; H. Ranke, Physiology; J. Amann, Midwifery; A. Martin, State Medicine; J. Oertel, Laryngoscopy; H. von Böck, Toxicology; J. Bauer, Medicine. Instruction is also given in the Philosophical Faculty by—*Ordinary Professors*: G. von Jolly, Experimental Physics; C. T. von Siebold, Comparative Anatomy; C. W. von Nägeli, Botany; L. Radlkoter, Botany; A. Bayer, Chemistry. *Extraordinary Professors*: J. Ranke, Physiology; E. Fischer, Chemistry.

The University is situated in the Ludwigstrasse, is a new building, and contains a library consisting of 500,000 volumes. The chemical laboratory for hygiene is under the direction of Professor von Pettenkofer.

UNIVERSITY OF ROSTOCK.

WHOEVER wishes to graduate as 'Medicinæ, Chirurgiæ, et Artis Obstetriciæ Doctor' at this University, must apply to the Dean of the Medical Faculty, and deliver to him at the same time the following documents:

1. A certificate of having gone through the requisite course of studies in an university;

2. A certificate of examination, testifying to the ability of the candidate in the practice of medicine;

3. A treatise on any subject appertaining to medical science, composed by the candidate himself. A fee of 350 *marks* must be paid to the Faculty at the same time, of which two-thirds will be returned provided the treatise is not deemed satisfactory.

The proof of having passed a satisfactory examina-

tion in Germany is, under all circumstances, satisfactory. If, however, this document should not appear satisfactory, or cannot be presented at all, the Faculty require that the candidate be subjected to an examination by the Faculty which shall pretty nearly correspond to the German States' Examination. For this examination, an additional 200 *marks* must be paid to the Faculty. Only for special cases does the Faculty reserve to itself a special form of examination.

The inaugural dissertation must be the candidate's own, and he must append to his treatise a written declaration to that effect. It is not, however, required that the work be composed entirely without assistance; but in this case, the literary resources, and also the name of him or them from whom he has received help, must be clearly and distinctly stated. Those essays are considered the best which contribute most to medical or scientific knowledge. After the dissertation has been stamped by the Dean in the name of the Faculty, the same must be printed, at the expense of the author, and at least 125 copies delivered to the Faculty.

When the candidate has satisfactorily fulfilled the above conditions, he must introduce his essay, and read it publicly in the Aula, and defend it against any objections that may be made.

Promotions *in absentia* cannot be made, except only in the case of a *promotio honoris causâ* for distinguished service to medical science.

The Medical Faculty of this University consists of the following *Ordinary Professors*: H. Stannius; T. Thierfelder, Special Pathology and Therapeutics; H. R. Aubert, Physiology; W. von Zehender, Ophthalmology; F. Schatz, Midwifery; F. S. Merkel, Anatomy; C. Gaetgens, Physiology and Pharmacology; F. Trendelenburg, Surgery; A. Thierfelder, Pathological Anatomy. *Extraordinary Professor*: J. Uffelman, Medicine. In the Philosophical Faculty, lectures on subjects connected with medicine are delivered by—*Ordinary Professors*: J. Roeper, Botany; O. Jacobsen, Chemistry; H. Grenacher, Comparative Anatomy and Zoology; and L. Matthiessen, Experimental Physics.

UNIVERSITY OF STRASBURG.

THE following is an extract from the regulations of the University of Strasburg relative to Degrees in Medicine.

Any person desirous of obtaining the degree of Doctor of Medicine can only be admitted to graduation on fulfilling the following conditions. *a.* If he belong to the German empire, he must have completed an academical four years' course of study of Medicine, or of the Natural Sciences. By an unanimous decision of the Faculty, one or two Sessions may be omitted. Foreigners desirous of graduating are not required to have passed through the four years' course if they produce proof of having received instruction equivalent to the course of study in the Medical Faculties of Germany. *b.* He must present a scientific essay (dissertation) composed by himself. *c.* He must undergo the Faculty examination. *d.* He must pay the prescribed fee of 240 *marks*.

In his application for graduation, which must be addressed to the Dean, the candidate must produce the evidence referred to in *a*, and forward a scientific memoir on some department of medicine, with a written assurance that it is absolutely his own com-

position. If the dissertation receive the approval of the Faculty, the candidate is admitted to examination.

The examination is conducted by the ordinary professors, and consists, as a rule, of an oral theoretical examination in all important departments of medicine. If the candidate fail to give satisfaction in the oral examinations, he must, in order to obtain the degree of doctor, again undergo the examination after a time to be determined by the Faculty, but he is not required to present a second dissertation.

In the case of candidates who have already passed the State examination, a colloquy before three members of the Faculty may, by the unanimous decision of the Faculty, be substituted for the oral examination.

Degrees in Medicine are not conferred on absent candidates.

If the dissertation be rejected, the candidate receives the whole fee back. If the dissertation be approved, but the candidate fail in the examination, 90 marks are returned to him, but, when he is again admitted to examination, only half that fee is required.

After the Faculty examination has taken place and the dissertation has been printed and published, the candidate is formally admitted to the degree of Doctor by the issuing of a printed diploma, the names of the successful candidates being announced.

The candidate has to bear the expense of printing the dissertation and of the diploma.

There is no public ceremony, and no oath is administered.

Matriculation takes place on the first four Wednesdays of the season, from twelve to one o'clock. After the end of these four weeks, the rector can allow matriculation only on special grounds. Any one desirous of matriculating as a student, and attending the lectures and other instructions given in the University, must, on his arrival in Strasburg, communicate with the Secretary of the University, in order to be inscribed. Other persons desirous of attending the lectures must obtain permission from the respective teachers, and must then at once communicate with the Secretary of the University.

The following are the professors and teachers of the University. *Ordinary Professors*: H. W. Waldeyer, Human Anatomy and Embryology; J. G. Jössel, Anatomy; F. L. Goltz, Physiology; J. Hoppe-Seyler, Physiological and Pathological Chemistry; O. Schmiedeberg, Pharmacology and Therapeutics; F. von Recklinghausen, Pathological Anatomy and Physiology, and Histology; A. Kussmaul, Medicine and Clinical Medicine; A. Lücke, Surgery and Clinical Surgery; W. A. Freund, Obstetrics and Gynaecology; F. Wiegner, History of Medicine, Diseases of the Skin, and Syphilis; A. Aubenas, Obstetrics and Gynaecology; F. Jolly, Psychiatry; L. Laqueur, Diseases of the Eye. *Extraordinary Professor*: O. Kohts, Medicine and Diseases of Children. There are also six *doctores*. Instruction in subjects connected with Medical Science is also given in the Faculty of Mathematics and Natural Science by the following—*Ordinary Professors*: O. Schmidt, Comparative Anatomy; A. de Bary, Botany; A. Kundt, Experimental Physics; F. A. Flüchiger, Pharmacy and Pharmaceutical Chemistry; R. Fittig, Experimental Chemistry. *Extraordinary Professors*: F. Rose, Practical Chemistry; A. Götze, Zoology.

Connected with the University are institutions for the practical study of anatomy, experimental physiology, physiological chemistry, pathology, and pharmacology, and clinics for medicine, surgery, midwifery, mental diseases, diseases of the eye, and syphilis, and diseases of the skin.

UNIVERSITY OF TÜBINGEN.

THE Faculty of Medicine here grants a degree in Medicine under the following conditions.

1. The candidate must send in with his application—a. A *curriculum vitæ*; b. A certificate of having gone through a thorough course of instruction at the Gymnasium or some equivalent institution; c. Proof of a sufficient study of medicine at an university, and certificates of having attended the lectures having reference to the subjects of examination.

2. The examination consists of a written and a subsequent verbal one. A legalised proof of having passed a satisfactory examination in medicine and surgery in a foreign country dispenses with the written examination, but not with the verbal one. In no case can a degree be granted *in absentia*.

3. In the written examination will be put one question in each of the following subjects: 1. Anatomy; 2. Physiology; 3. *Materia Medica*; 4. General Pathology and Therapeutics; 5. Two questions in Special Pathology and Therapeutics. In addition to which, if a Doctor's degree in Surgery be required, one question will be put on each of the following subjects: 1. General Surgery; 2. Special Surgery; 3. Surgical Operations; 4. Midwifery.

4. The fees amount to 300 marks, including the printing of the diploma, which fee must be paid on application. If the candidate be rejected at the written examination, and be not admitted to the verbal one, the whole of the fees will be returned. If he be rejected after the verbal one, only half will be returned.

5. The candidate must compose a dissertation under the presidency of a member of the Faculty, and get it printed; 250 copies are to be presented to the University. If, however, the essay be published either in a periodical or as a special pamphlet, 100 copies will suffice, but they must be provided with a special title-page. Only such candidates as have given numerous and satisfactory literary proofs of their capacity can be allowed to dispense with the composition.

The Medical Faculty of this University consists of the following professors, with private teachers. *Ordinary Professors*: V. von Bruns, Surgery; K. von Vierordt, Physiology, O. E. von Schiippel, Pathology; J. von Söxinger, Midwifery; C. von Liebermeister, Medicine and *Materia Medica*; T. H. Jürgensen, Medicine and Diseases of Children; A. Nagel, Ophthalmology; P. J. W. Henke, Anatomy. *Extraordinary Professors*: O. Oesterlen, Forensic Medicine and Hygiene; P. Bruns, Surgery. Lectures are also given on subjects connected with Medicine in the Faculty of Natural Science by—*Ordinary Professors*: F. von Rensch, Experimental Physics; T. Eimer, Zoology; C. G. Hüfner, Chemistry; L. Meyer, Chemistry; W. Pfeffer, Botany; and *Extraordinary Professors*:—Hegelmaier, Botany; and W. Städel, Chemistry.

A hospital and institution for practical instruction are connected with this University.

UNIVERSITY OF WÜRZBURG.

BEFORE being admitted to the examination for the Doctorate of Medicine, Surgery, and Midwifery, the candidate must pass the medical approbation examination, which consists in showing—by testimonials or certificates—that he has a good moral character, and that he has passed through four years' study at an University, six sessions of which must have been devoted to medical studies.

Upon fulfilment of these conditions, the candidate will be admitted to a written and *vivâ voce* examination, before which, however, he must pay to the Faculty 300 marks (15*l.*)

The written examination consists in the composition of a scientific work out of the sphere of theoretical or practical medicine, which dissertation must be handed to the Dean, who will give it to one of the examining professors to report on. Upon the satisfactory or unsatisfactory decision of the reporter depends the admission to the *vivâ voce* examination. It is customary for the dissertation to be printed.

If the decision of the reporter with regard to the theme be unfavourable, then admission to the *vivâ voce* examination is denied, and another theme must be composed and handed in at a future time. Should the second theme, however, be deemed unsatisfactory, the candidate will not be allowed to reappear. He then receives back all his fees except 30 marks.

If the dissertation be approved by the Faculty, the candidate is admitted to a *vivâ voce* examination in the German language, which consists of the following subjects: Anatomy and Pathological Anatomy, Physiology, Pathology and Medicine, Special Therapeutics, Surgery, Obstetrics and Ophthalmology. A knowledge also of Psychology and State Medicine is required.

After taking the examination oath, the result and standing of the examination is imparted to the candidate by the Dean—whether very good, good, or moderate.

When the candidate is unsuccessful at the *vivâ voce* examination, he receives back half the fees, and is allowed to present himself for examination again in six months' time by paying half the fees again. Only one more attempt is, however, allowed after the first rejection at the *vivâ voce* examination.

After successful examination, the candidate will receive his diploma of doctor.

In this University, the Medical Faculty consists of the following professors, with several *doctents*. *Ordinary Professors*: F. von Reinecker, Syphilis and Diseases of the Skin, also Psychiatry and Psychiatric Clinic; A. von Kölliker, Human, Comparative, and Topographic Anatomy; F. W. Scanzoni von Lichtenfels, Midwifery; E. von Bergmann, Surgery and Clinical Surgery; A. Fick, Physiology; C. Gerhardt, Medicine and Clinical Medicine, and Diseases of Children; F. Rindfleisch, Pathological Anatomy, General Pathology, and History of Medicine; J. Michel, Ophthalmic Surgery; A. Geigel, Clinical Medicine and Hygiene; M. Rossbach, *Materia Medica*. *Extraordinary Professors*: A. F. von Trölsch, Aural Surgery; W. Reubold, Forensic Medicine. Lectures are also given in the Philosophical Faculty by—*Ordinary Professors*: J. Sachs, Botany; J. von Wislicenus, Chemistry; C. Semper, Zoology; F. Kohlrausch, Experimental Physics.

MEDICAL DEGREES IN THE AUSTRO-HUNGARIAN EMPIRE.

THE Universities of the Austro-Hungarian Empire which possess Medical Faculties and grant degrees in medicine are: Agram (Croatia), Gratz (Styria), Innsbrück (Tyrol), Cracow, Lemberg (Galicia), Pesth (Hungary), Prague (Bohemia), and Vienna.

All the Universities are under Government control, and the degree of Doctor of Medicine obtained at any of them alone gives the right to practise medicine in the empire.

The course of study required of candidates for the degree of Doctor of Medicine in the Universities of the Austrian Empire extends over five years, or five winter and five summer terms or *semesters*. The following arrangement is recommended by the Government. (The first, third, fifth, seventh, and ninth are winter *semesters*; the others are summer *semesters*.) 1st *Semester*: Systematic Anatomy; Experimental Physics; Inorganic Chemistry; General Botany; Dissections. 2nd *Semester*: Systematic Anatomy (second part); Experimental Physics (second part); Organic Chemistry; Special Botany; Practical Introduction to Chemical Analysis; Practical Introduction to the Use of the Microscope. 3rd *Semester*: Physiology; Histology; Medical Chemistry; Zoology; Dissections. 4th *Semester*: Physiology (second part); Embryology; Exercises in Physiology; in Histology; and in Medical Chemistry. 5th *Semester*: General Pathology and Therapeutics; Pharmacology; Pathological Anatomy; Pathological Histology; *Post mortem* Examinations; Practical Introduction to the Physical Examination of Patients. 6th *Semester*: Pathological Anatomy (second part); Special Pathology, Therapeutics, and Clinic of Internal Diseases; Special Surgical Pathology, Therapeutics, and Clinic; *Post mortem* Examinations; Exercises in Pathological Histology. 7th *Semester*: Special Pathology, Therapeutics, and Clinic of Internal Diseases; Special Surgical Pathology, Therapeutics, and Clinic; Diseases of the Eye; Exercises in Surgical Anatomy; (Operations). 8th *Semester*: Internal Diseases; Surgery or Diseases of the Eye; Surgical Operations; (Surgical Anatomy). 9th *Semester*: Internal Diseases; Surgery; Theory and Practice of Obstetrics and Gynecology; Forensic Medicine; (Exercises in Obstetric Operations); Medico-Legal Exercises. 10th *Semester*: Clinics of Diseases of Children; of Diseases of the Skin; and of Syphilis; (Obstetrics and Gynecology); Exercises in Obstetric Operations; (Medico-Legal Exercises). Of the subjects included in brackets, one course only is required, which may be attended in either a winter or a summer term, at the option of the student.

Candidates for the degree of Doctor of Medicine are required to undergo three examinations. Before being admitted, the candidate must produce (a) his certificate of birth or baptism, and evidence (b) of having received a sufficient preliminary education in one of the institutions of the countries comprised in the empire, or, if he do not belong to any of these, evidence of having matriculated as an ordinary student in a Faculty of Medicine; (c) of having attended lectures in a medical school during at least four sessions, and of having dissected during two sessions; (d) of having passed, at one of the Universities of the empire, three examinations, in Botany, Zoology, and Mineralogy. Before being admitted to

the second examination, he must produce evidence of having been engaged five years in professional study, and of having studied Clinical Medicine and Clinical Surgery, each during four sessions, and Clinical Ophthalmology and Clinical Midwifery, each during at least one session; and of having passed the first examination.

The first examination embraces Physics, Chemistry, Anatomy, and Physiology. There is a practical examination on Anatomy and Physiology, and a theoretical examination on all four subjects.

The second examination includes General Pathology and Therapeutics, Pathological Anatomy and Histology, Pharmacology (pharmacodynamics, toxicology, and prescribing), and the Pathology and Therapeutics of internal diseases. The candidate is examined practically in Pathological Anatomy (with preparations and on the dead body), and in Medicine (at the bedside); and theoretically in all the subjects.

The third examination embraces Surgery, Ophthalmic Surgery, Midwifery and Diseases of Women, and Forensic Medicine. The examinations in Surgery, Ophthalmic Surgery, and Midwifery, are practical; and there are theoretical examinations in all the subjects.

All these examinations must take place at the same University. In very exceptional circumstances only is a candidate allowed to pass the second or third examination at another University than that at which he has passed the first.

The examinations are public, and are conducted by a President, the regular examiners, extraordinary examiners when required by the number of candidates, the Government commissioner, and at the second and third there is a co-examiner appointed by the Government. Each member of the commission examines for a quarter of an hour.

A candidate is not admitted to the theoretical examination unless he has satisfied the examiners in the practical one. If he fail at the practical examination, he may present himself again at the end of six months; if again rejected, six months must elapse before he can be again examined. A candidate rejected at the theoretical examination by one examiner only may be re-admitted to examination in the subject in which he is deficient, at the end of two months. If again rejected, he cannot be again examined in less than four months. If rejected at the theoretical examination by more than one examiner, he may re-appear a second and third time at intervals of six months. A rejected candidate can, however, be examined a third time, whether in practice or in theory, with the sanction of the minister of public instruction, and the consent of the college of professors; and, if he then fail, he is debarred henceforth from obtaining a degree in medicine in any of the Universities of the empire.

The fee for the first examination is 55 florins, for the second 60 florins, and for the third 65 florins (Austrian). The promotion fees for the Doctorate amount to 60 Austrian florins. The total fee for the M.D. degree is about £23 of English money.

The examinations are conducted in German, except at Cracow and Lemberg, where they are in Polish.

UNIVERSITY OF VIENNA.

In this University, the Medical Faculty is constituted as follows. *Ordinary Professors*: C. A. Voigt,

Anatomy; E. von Brücke, Physiology; F. von Arlt, Ophthalmic Surgery; J. von Dumreicher, Practical and Clinical Surgery; C. Langer, Descriptive and Topographic Anatomy; C. R. Braun von Fernwald, Theory and Practice of Midwifery; H. von Bamberger, Special Medical Pathology, Therapeutics, and Clinical Medicine; R. L. Heschl, Pathological Anatomy; A. Duchek, Special Medical Pathology and Therapeutics, and Clinical Medicine; J. Späth, Theory and Practice of Midwifery; C. Stellwag von Carion, Ophthalmic Surgery; Th. Billroth, Practical and Clinical Surgery; G. Braun, Midwifery (for Midwives); E. Hofmann, Forensic Medicine; C. Sigmund von Ilanor, Syphilology; C. Wedl, Histology; S. Stricker, Experimental and General Pathology and Therapeutics; Th. Meynert, Psychiatry and Nervous Diseases; A. E. Vogl, Pharmacology and Pharmacognosy; E. Ludwig, Chemistry. *Extraordinary Professors*: E. Jäger von Jaxthal, Ophthalmic Surgery; J. Seegen, Balneology; C. Cessner, Use of Instruments and Bandages; H. Zeissl, Syphilology; M. F. Röhl, Contagious Diseases; L. Schlager, Psychiatry; F. Müller, Veterinary Medicine; J. Clob, Pathological Anatomy; L. Dittel, Surgery; H. Widerhofer, Diseases of Children; M. Leidesdorf, Psychiatry; M. Schwanda, Medical Physics; M. Benedikt, Electro-Therapeutics and Neuro-Pathology; S. Stern, Elementary Clinical Instruction; A. Politzer, Aural Surgery; J. Grüber, Aural Surgery; J. Weinlechner, Surgery; G. Löbel, Clinical Medicine; S. L. Schenk, Embryology; A. Drasche, Epidemiology; K. von Schroft, Toxicology and Prescribing; A. R. von Mosetig-Moorhof, Surgery; J. Nowak, Hygiene; C. Stoerk, Laryngoscopy; L. von Schrötter, Diseases of the Chest and Larynx; M. Kaposi, Diseases of the Skin and Syphilis; H. Auspitz, Diseases of the Skin and Syphilis; I. Neumann, Diseases of the Skin and Syphilis; F. Salzer, Surgery; S. Exner, Physiology; M. Rosenthal, Diseases of the Nervous System; C. Mayrhofer, Midwifery and Gynaecology; G. Wertheim, Diseases of the Skin and Syphilis; L. Politzer, Diseases of Children; S. von Basch, Experimental Pathology; T. Puschmann, History of Medicine. There are also between eighty and ninety private teachers, adjuncts, and assistants. In the Philosophical Faculty, lectures on subjects connected with medicine are given by—*Ordinary Professors*: K. von Brühl, Zoology; L. K. Schmarda, Zoology; K. Claus, Zoology and Comparative Anatomy; J. Stefan, Physics; V. von Lang, Physics; J. Loschmidt, Physics and Chemistry; J. Wiesner, Vegetable Anatomy and Physiology; A. Lieben, Chemistry; L. Barth von Barthénau, Chemistry; A. Kerner von Marilaun, Botany; J. Böhm, Botany. *Extraordinary Professors*: H. W. Reichardt, Botany; E. Lippman, Chemistry.

The General Hospital (*Allgemeine Krankenhaus*) is capable of accommodating about 3,000 patients. There are two medical clinics, under Professors Duchek and von Bamberger; two surgical clinics, under Professors von Dumreicher and Billroth; a clinic for Diseases of the Eye, under Professors von Arlt and Stellwag von Carion; and three clinics for Obstetrics—two for students being under the charge of Professors Carl Braun-Fernwald and Späth, and one for Midwives under Professor Gustav Braun. The clinics for Diseases of Women are under the charge of Professors Braun-Fernwald and Späth. There are also special clinics for Syphilis, under Professor Sigmund; for Laryngoscopy, under Professor Schrötter; for Diseases of Children, under Professor Widerhofer; for Psychology, under Pro-

fessor Meynert; and for Otolaryngology, under Professor Grüber. A considerable portion of the school is also situated within the hospital; thus there are the Pathological Museum and *post mortem* room, under the direction of Professor Heschl; the room for medico-legal necropsies, under Professor Hofmann; the Institute for Experimental Pathology, under the direction of Professor Stricker; and the Institute of Chemical Pathology, under Professor Ludwig. The Anatomical Institute and Dissecting Room, under the direction of Professor Langer; the Physiological Institute, where the Practical Physiology is carried on under Professor Brücke; the *Materia Medica* Museum, and the Medical Library are outside the hospital, in the Alsergrund.

The great clinics on medicine, surgery, etc., are conducted during the two sessions, from the middle of October to the middle of March, and from the middle of April to the end of July. They are under the immediate direction of the Professors of the Medical Faculty, and constitute, of course, an essential part of the curriculum of study for the ordinary Austrian student.

The special courses of instruction are most numerous during the regular academical sessions, but there are always some going on, even in August and September. They last usually from four to eight weeks. The courses are given for the most part by the private lecturers and the professors' assistants, and the material for them is derived from the wards of the clinical professors. For a six or eight weeks' course, the fee is usually from fifteen to twenty florins. The instruction in them is demonstrative or practical, involving the use of instruments and apparatus by the students themselves. Clinical instruction on children's diseases is given at the St. Anne's Hospital. This and many other of the courses are often attended by students for a second or even third time. A student desirous of occupying his time to the best advantage at Vienna must be prepared to expend a considerable sum in fees.

Vienna affords great opportunities for the study of pathological anatomy. There are separate *post mortem* rooms for the cases from the clinical wards, medico-legal cases, and the ordinary cases. At the two former, the clinical professor or assistant is usually in attendance. The examinations go on all the morning, there being sometimes as many as a dozen in one day. The ordinary *post mortem* examinations are gone through with great rapidity by pathological assistants without any view to teaching, but the most interesting specimens of the day are reserved for demonstration at a class held in the afternoon by the first assistant.

UNIVERSITY OF BUDA-PESTH.

THE Medical Faculty of this University consists of the following professors. *Ordinary Professors:* J. Lenhossek, Anatomy; G. Scheuthauer, Pathological Anatomy; E. Jendrassik, Physiology; K. Balogh, Pharmacognosy and General Pathology; T. Stockinger, Surgery; J. Wagner and F. Koranyi, Medicine and Clinical Medicine; J. Kovacs, Surgery; W. Schulek, Ophthalmic Surgery; J. N. Ropp, Forensic Medicine; J. Fodor, Hygiene; J. Bókai, Diseases of Children; T. Margó, Histology. *Extraordinary Professors:* T. Kézmárszky, Obstetrics and Gynecology; L. Gebhardt, Diseases of the Chest; A. Lumnitzer, Surgery; E. Podr, Diseases of the Skin; E. Navratil, Rhinoscopy and Laryngoscopy; T. Bakody, Medicine; P. Plósz, Physiological and Pathological

Chemistry; G. Mihalkovicz, Anatomy and Embryology. There are also several *docents*.

UNIVERSITY OF CRACOW.

THE Medical Faculty of this University consists of the following professors, with several *docents*. *Ordinary Professors:* E. Korczynski, Special Pathology and Therapeutics; A. Bryk, Surgery; G. Piotrowsky, Physiology and Microscopy; L. Teichmann, Descriptive Anatomy; M. Madurowicz von Jelita, Midwifery and Gynecology; S. Janikowski, Forensic Medicine; L. Rydel, Ophthalmology; A. Stopczanski, Medical Chemistry; A. Adamkiewicz, General and Experimental Pathology. *Extraordinary Professors:* A. Rosner, Diseases of the Skin and Syphilis; J. Oettinger, History of Medicine; M. L. Jakubowski, Diseases of Children. There are also several *privat-docents* and assistants.

UNIVERSITY OF GRATZ.

IN this University, the Medical Faculty consists of the following professors, with about 12 *docents*. *Ordinary Professors:* A. Schauenstein, Forensic Medicine; J. von Planer, Descriptive and Topographical Anatomy; K. von Rzehaczek, Surgical Pathology and Therapeutics and Clinical Surgery; C. von Helly, Midwifery and Gynecology; A. Rollett, Physiology and Histology; C. Blodig, Ophthalmic Surgery; O. Rembold, Medicine; H. Kundrat, Pathological Anatomy; C. von Schroff, General Pathology and Therapeutics; V. von Ebner, Histology and Embryology; R. von Krafft-Elbing, Psychiatry; C. B. Hoffmann, Medical Chemistry. *Extraordinary Professors:* J. von Koch, Epidemic Diseases and Sanitary Police; E. Lipp, Diseases of the Skin; R. Klemensiewicz, Experimental and General Pathology.

Connected with the University are anatomical, physiological, pathological, and zoological institutes; medical, surgical, ophthalmic, obstetric, and gynecological clinics; a laboratory for physiological and pathological chemistry; a chemical laboratory, etc. The hospitals are: The general hospital (700 beds); a lying-in hospital (120 beds); the town hospital (80 beds); a children's hospital (80 beds); and two infirmaries (245 beds).

UNIVERSITY OF INNSBRUCK.

THE following professors belong to the Medical Faculty. *Ordinary Professors:* C. Dantschler, Descriptive Anatomy; L. Kleinwächter, Obstetrics and Gynecology; A. Tschurtschenthaler, General Pathology and Pharmacology; M. von Vintschgau, Physiology; F. Schott, Pathological Anatomy; E. Albert, Clinical Surgery; I. Schnabel, Ophthalmic Surgery; P. von Rokitsansky, Medicine. *Extraordinary Professors:* F. Wildner, Veterinary Medicine; J. Oellacher, Histology and Embryology; E. Lang, Syphilology and Dermatology; M. Dietl, Experimental Pathology; W. Löbisch, Medical Chemistry.

The ordinary laboratories, clinics, and other means of practical instruction, are possessed by this University. There are a general hospital (204 beds), and a lying-in hospital (130 beds).

UNIVERSITY OF PRAGUE.

THE Medical Faculty of this University consists of the following professors, with several *docents*. *Ordinary Professors:* A. Jaksch von Wartenhorst, Clinical Medicine; C. Gussenbauer, Surgery and Clinical Surgery; J. Halla, Clinical Medicine; J. Streng,

Midwifery; S. Strupí, Veterinary Medicine; J. Hasner von Artha, Ophthalmology; F. Knoll, General Pathology and Therapeutics; J. Maschka, State Medicine; F. Hering, Physiology; F. Weber von Ebenhof, Midwifery; C. H. Huppert, Medical Chemistry; E. Klebs, Pathological Anatomy; A. Breisky, Midwifery; C. Toldt, Anatomy and Histology; *Extraordinary Professors*: J. Lerch, Forensic, Physiological, and Pathological Chemistry; G. Ritter von Rittershain, Diseases of Children; J. Th. Eiselt, Clinical Medicine (in Bohemian); J. Kaulich, Diseases of Children; S. Mayer, Physiology; P. J. Pick, Skin-Diseases and Syphilis; A. Pribram, Clinical Medicine; E. Zaufal, Aural Surgery; J. Fischel, Psychiatry; J. Eppinger, Pathological Anatomy; W. Weiss, Operative Surgery; C. Weil, Orthopædic Surgery.

Connected with the University are an anatomical theatre; pathological, physiological, medico-chemical, and zoo-chemical institutes; medical, surgical, ophthalmic and dermatological clinics (one of the medical clinics being Bohemian); obstetric clinics for practitioners and for midwives, etc. The hospitals are: The general hospital (948 beds), with the affiliated hospital of the Bohemian sisters (220 beds); the Franz-Josef Children's Hospital (100 beds); the Israelite General Hospital (52 beds); the hospital of the Brothers of Mercy (166 beds); the hospital of the Elizabethan sisters (60 beds); the public lunatic asylum (1,348 beds); the lying-in hospital (322 beds for mothers and 176 for children).

MEDICAL EDUCATION IN SWITZERLAND.

IN Switzerland, degrees in Medicine are granted in the Universities of Basle, Berne, Geneva, and Zürich. These degrees do not confer a licence to practice, for which a separate examination is required. One licensing body examines at Geneva, and the other at Basle, Berne, and Zürich; both have the same regulations, and grant the licence to practice in all parts of the republic.

UNIVERSITY OF BASLE.

THE degree of Doctor of Medicine, Surgery, and Midwifery, granted by this University, can only be obtained with the fulfilment of the following conditions.

1. Application for admission to the examination must be made to the Dean of the Faculty, in writing, enclosing: *a.* A 'curriculum vitæ'; *b.* The academical matriculation of this place; *c.* Certificates of attendance at the academical lectures; *d.* A certificate of conduct from the High School in which the candidate has made his principal studies; *e.* A scientific treatise on any subject he chooses within the sphere of medical or natural science.

2. The examination is partly written (*tentamen*) and partly verbal (*rigorosum*).

3. The written examination consists in the answering of five questions having reference to Anatomy, Physiology, Pathological Anatomy and Pathological Physiology, Special Pathology and Therapeutics, and Surgery.

4. In case of rejection, the Faculty can appoint a time for a repetition of the examination, before which time the candidate cannot be re-examined.

5. The whole of the professors of the Faculty are invited to the verbal examination. The following are the subjects: Anatomy, Physiology, Pathological Anatomy and Physiology, Special Pathology and Therapeutics, Materia Medica, Surgery, Midwifery.

6. The examination by one examiner must not last longer than half an hour.

7. The degrees in which doctorships are granted are 'Summa cum laude', 'Insigni cum laude', 'Magna cum laude', 'Cum laude', and 'Rité'.

8. In adjudicating on both the written and verbal examination, not only will the special knowledge in the respective branches be taken into consideration, but also the possession of a general scientific knowledge, and especially a comprehensive knowledge of Natural Science.

9. One hundred and twenty copies of the treatise must be delivered to the Faculty.

10. Promotions are not granted to applicants who have not passed the examinations here; but the Faculty can confer the degree of doctor on notable and eminent physicians *honoris causa*.

11. The fees for the examination amount to 350 francs, viz., 100 for the *tentamen*, 200 for the *rigorosum*, and 50 for the promotion.

12. If the candidate be rejected after either examination, he forfeits the fees. The re-examination is free of charge.

The following are professors in the Medical Faculty of this University. *Ordinary Professors*: F. Miescher, senior, Pathological Anatomy; L. Rüttimeyer, Comparative Anatomy and Zoology; A. Socin, Surgery and Clinical Surgery; H. Immermann, Medicine and Clinical Medicine; J. Kollmann, Anatomy; J. J. Bischoff, Obstetrics and Gynæcology; F. Miescher, junior, Physiology and Physical Chemistry; M. Roth, General Pathology and Pathological Anatomy; L. Wille, Psychiatry; H. Schiess, Ophthalmology. *Extraordinary Professors*: J. Hoppe, Therapeutics; E. Hagenbach-Burckhardt, Diseases of Children; R. Massini, Polyclinic and Prescribing; C. Schulin, Histology. There are also several private teachers. Lectures on subjects connected with Medicine are given in the Mathematical and Scientific Department of the Philosophical Faculty by—*Ordinary Professors*—J. Piccard, Chemistry; and H. Vöchting, Botany.

Connected with the University are the town hospital, where clinics for medicine, surgery, diseases of the eye, mental diseases, and midwifery are conducted; a hospital for diseases of children, and institutions for practical instruction in physiology, pathology, chemistry, and Botany.

UNIVERSITY OF BERNE.

BEFORE admission to examination for the Degree in Medicine and Surgery, the candidate must submit to the Faculty of Medicine a manuscript dissertation of scientific value. If this be accepted, he must, after producing evidence of general, scientific, and medical education, be examined *viva voce* in Anatomy, Physiology, Pathological Anatomy, Legal Medicine; General Pathology and Medicine, Surgical Pathology and Surgery, Materia Medica, and Ophthalmology.

The Medical Faculty of this University is constituted of the following professors and about thirteen *doctors*. *Ordinary Professors*: G. Valentin, Physiology and Toxicology; C. Emmert, Forensic Medicine and Hygiene; C. Aeby, Human and Compar-

tive Anatomy; T. Kocher, Surgery; T. Langhans, Pathological Anatomy; L. Lichtheim, Medicine; P. Müller, Midwifery; A. Vogt, Hygiene; E. Pflüger, Ophthalmology; M. von Nencki, Physiological Chemistry. *Extraordinary Professors:* E. Schärer, Psychiatry; R. Demme, Diseases of Children. There are several private teachers. Instruction in subjects connected with medicine is also given in the Mathematical and Scientific Department of the Philosophical Faculty by—*Ordinary Professors:* V. Schwarzenbach, Chemistry and Pharmacy; L. Fischer, Botany; T. Studer, Zoology.

Medical, surgical, obstetric, and special clinics, and physiological, pathological and clinical laboratories, etc., are connected with the University.

UNIVERSITY OF GENEVA.

THE University of Geneva grants the degrees of Bachelor in Medical Science and Doctor of Medicine.

The following classes of persons are admitted as students in the Faculty of Medicine: 1. Bachelors in Letters; 2. Bachelors in Science; 3. Students who have attended during two years lectures in the Section of Philosophy, and have undergone the examinations at the end of each year; 4. Pupils from the Classical Section of the Gymnasium, with certificates of Studies; 5. Swiss and strangers who give evidence of their studies by means of diplomas or certificates; 6. Persons who undergo satisfactory oral examinations in the subjects comprehended in the classical section of the Gymnasium. 7. Persons who furnish evidence that they have studied abroad, for a year at least, in a corresponding faculty, may be inscribed in the Faculty of Medicine.

The course of study is as follows: *First Year: Winter Session:* Botany (first part); Physics (first part); Comparative Anatomy or Zoology; Inorganic Chemistry; Practical Comparative Anatomy. *Summer Session:* Botany (second part); Physics (second part); Comparative Anatomy or Zoology; Organic Chemistry (first part); Practical Chemistry; Botanical Excursions. *Second Year: Winter Session:* Descriptive Anatomy (first part); Physiology (first part); Organic Chemistry (second part); Dissections. *Summer Session:* Descriptive Anatomy (second part); Physiology (second part); Practical Chemistry and Practical Comparative Anatomy. (Students are recommended to attend, in addition, courses of other subjects, such as Astronomy, Geography, Physics, Mineralogy, Geology, etc.) *Third Year: Winter Session:* Descriptive Anatomy (third part); Normal Histology; Dissection. *Summer Session:* Regional Anatomy; Embryogeny; Supplementary courses on subjects of the preceding years, on which the student's knowledge is weak; Practical Physiology, Histology, Comparative Anatomy, and Chemistry. (The examination for Bachelor in Medical Sciences is now undergone.) *Fourth Year: Winter Session:* General Pathology; Internal Pathology; External Pathology; Dissection of Regions; Medical and Surgical Hospital Practice. *Summer Session:* Special Pathological Anatomy; Pathological Histology; Internal Pathology; External Pathology; Pharmacology; Medical and Surgical Hospital Practice; Exercises in the Laboratory of Pathological Histology. *Fifth Year: Winter Session:* Therapeutics; Hygiene; Legal Medicine; Theory of Obstetrics; Internal Pathology; External Pathology and Operations; Medical and Surgical Hospital Practice. *Summer Session:* Thera-

peutics; Legal Medicine; Internal Pathology; External Pathology; Medical and Surgical Hospital Practice; Operations. *Sixth Year: Winter and Summer Sessions:* Medical, Surgical, and Obstetrical Hospital Practice; Polyclinic; Ophthalmology; Psychology, etc. Repetitions preparatory to the examination for the Doctorate.

Persons who have satisfied the conditions laid down regarding the admission of students to the Faculty of Medicine may become candidates for the degree of Bachelor in Medical Science. Students who have undergone the recognised annual examinations in the Faculty of Medicine or of Sciences are exempt from oral examinations in the subjects in which they have already been examined; provided that the examinations have been undergone not more than two years previously. Persons who produce diplomas or certificates giving evidence of their studies may be exempted from further examinations in the subjects in which they have already passed.

The following may become candidates for the degree of Doctor of Medicine: 1. Bachelors in Medical Science; 2. Persons who produce diplomas or certificates indicating that they have gone through an equivalent course of study. There are five examinations for the degree of Doctor of Medicine. *First Examination:* Human Anatomy and Histology; Physiology; Pathological Anatomy and General Pathology; a Necropsy, for which one hour is allowed; making an Anatomical Preparation, for which four hours are allowed. *Second Examination:* Medicine; Surgery; Operative Surgery; three Operations, and Application of Bandages. *Third Examination:* Hygiene; Therapeutics; *Materia Medica* and Pharmacology; Legal Medicine; a Medico-Legal Report on a real or supposed case, for which one hour is allowed. *Fourth Examination:* Clinical Examination of two medical and two surgical patients and of one case of labour (fifteen minutes being allowed for each case); Obstetrics, with operations on the mannikin; Discussion on each Clinical Case; Written Commentary on a Medical and a Surgical Case, two hours being allowed. *Fifth Examination:* Defence of a printed Dissertation, in the French language, on a subject in medical science chosen by the candidate, and previously communicated to the Faculty.

The examinations are public. Those for the degree of Bachelor are held at the beginning and end of the University year, and in the interval between the sessions. Applications for admission must be made to the Dean of Faculty of Medicine eight days before the day of examination. The examinations for the degree of Doctor take place, on the demand of the candidates, at times determined by the Faculty.

Before being admitted to examination, each candidate pays to the beadle 40 francs; and after the last examination, 100 francs must be paid to the Faculty of Medicine. In case of unsatisfactory examination, half of the first fee is returned, and the second is not paid.

UNIVERSITY OF ZURICH.

THE following are the regulations for the degree of Doctor of Medicine.

1. In order to obtain the degree of Doctor of Medicine, the candidate must send to the Dean a written memorial, accompanied by (a) evidence of attendance on lectures of Physics, Chemistry, Botany, Zoology, and Medical Subjects; (b) a dis-

sertation on some subject in medical science, which, after approval, the candidate must have printed at his own expense.

2. The dissertation is delivered by the Dean for examination to the teacher of the subject of which it treats, or to the member of the Faculty at whose suggestion it has been composed. A recommendatory opinion of the first examiner decides its acceptance; in this case, his name appears on the title when it is printed. If the first opinion be doubtful or unfavourable, the thesis must be circulated among all the members of the Faculty, and is only accepted if two-thirds of them give their written votes in its favour.

3. When the dissertation is approved, the candidate is admitted to examination for the degree. The first part is written, and the candidate has to answer two questions drawn by lot, one on Anatomy and Physiology, the other on Pathology and Therapeutics, Surgery, or Midwifery. The answers are circulated among the members of the Faculty, who, after examining them, express in writing their determination (by a simple majority) whether the candidate shall be admitted to the second (oral) examination. The oral examination comprises the above-named subjects, and also General Anatomy, Pathological Anatomy, Materia Medica, and Ophthalmic Medicine. The votes of two-thirds of the members of the Faculty present is necessary for the passing of this examination.

4. After the examination has been passed and two hundred printed copies of the dissertation have been delivered, an official diploma is delivered in duplicate to the candidate; all other ceremonies are dispensed with.

5. The fee consists of 350 francs (£14), and 15 francs to the bedell; it is paid before the oral examination (if this be remitted, before graduation). There is no additional fee if it be necessary to repeat the examination. The fee is not returned if the candidate be definitely rejected. The sum of 100 francs is remitted to candidates who already possess a recognised diploma; and, in such cases, the Faculty may, by a majority of two-thirds, agree to omit the oral examination.

6. The Faculty has the power of granting the diploma of doctor *honoris causâ* for distinguished services to medicine.

The Medical Faculty consists of the following Professors, with several docents: *Ordinary Professors*—H. Meyer, Human Anatomy; H. Frey, Comparative Anatomy, Zoology, Histology, Embryology; E. Rose, Surgery and Clinical Surgery; L. Hermann, Physiology; K. J. Eberth, Morbid Anatomy; G. Huguenin, Practice and Clinics of Medicine; F. Horner, Ophthalmology; O. Wyss, Diseases of Children; E. Frankenhäuser, Obstetrics and Gynæcology; A. Forel, Mental Diseases. *Extraordinary Professor*—H. Spöndly, Obstetric Medicine. Lectures are given in the Philosophical Faculty by *Ordinary Professors*—V. Merz, Chemistry; W. Weith, Chemistry. A Hospital, Lying-in Hospital, Children's Hospital, Pathological, Physiological, and Chemical Laboratories, are connected with the University.

EXAMINATIONS FOR LICENCE TO PRACTISE.

The following are the regulations of the examinations for the licence to practice as a physician in Switzerland.

There are two examinations, preliminary and final. At Geneva, candidates are admitted to the preliminary examination on producing one of the following certificates: 1. Bachelier ès lettres; 2. Bachelier ès sciences; 3. Certificates of having passed two examinations in the Section of Philosophy at Geneva, and of having previously taken not less than twenty hours per week of studies. 4. Certificates of foreign studies at the Classical Section of the Gymnasium in Geneva; 5. Certificates of foreign studies equivalent to those named above. At the Amalgamated Board of Basle, Bern, and Zürich, candidates must produce evidence of complete and satisfactory studies in a public school; and of attendance on courses of Anatomy, Chemistry, Physics, Physiology, Practical Physiology, and six months' work in a Chemical Laboratory.

The examination is written and oral. The written part consists in producing two dissertations, one in Physics or Chemistry, the other in Anatomy or Physiology. The oral examination comprises Botany, Zoology, and Comparative Anatomy, Physics, Anatomy, and Physiology. At Geneva, candidates who have passed this examination are entitled to the designation of Bachelor of Medical Science.

In order to be admitted to the Final Examination for the Licence, candidates at Geneva must produce the certificate of Bachelor of Medical Science, and diplomas and certificates obtained after equivalent studies and examinations elsewhere. At the other Board, they must produce evidence of having passed the Preliminary Examination, and of having attended the following academic courses: Pathological Anatomy, Medicine, Practical Surgery and Bandaging (six months), Clinical Medicine and Clinical Surgery (each three sessions), Clinical Midwifery (two sessions), and Clinical Ophthalmic Medicine (one session).

The examination is written, practical, and oral. The written and practical part consists of—1. Examination of two Medical and two Surgical cases, and one of Midwifery, in the presence of two examiners; 2. Written opinion of one of two Medical and two Surgical cases; 3. A *post mortem* Examination, and opinion on the same; 4. Performance of two Operations: one the tying of an artery; the other according to the judgment of the examiners. The *viva voce* examination comprises: 1. General Pathology and Pathological Anatomy; 2. Special Pathology and Therapeutics; 3. Hygiene; 4. Pharmacology; 5. Surgery; 6. Topographical Anatomy, with Operations; 7. Ophthalmology; 8. Midwifery; 9. Ordinary Medical Practice.

MEDICAL EDUCATION IN THE SCANDINAVIAN KINGDOMS.

MEDICAL EDUCATION AND GRADUATION IN DENMARK.

THE study of Medicine at the University of Copenhagen is open to any student who has matriculated there or in foreign Universities; but only Danish subjects can obtain through examination the right to practise as medical men in the country.

The course of study is divided into three parts, namely, an introductory and two principal courses.

1. The introductory part consists of Botany (with especial regard to medicinal plants), Physics, Zoology, and Chemistry, theoretical and practical. The

student has to submit to a preliminary examination on these subjects, and he can then enter as a pupil of one of the hospitals, where he must attend in a fixed order, and for a certain time, the various wards.

2. The second course comprises Anatomy, Physiology, Pharmacology, and Dissection, in which the student has to submit to an examination.

3. The final course consists of the following: Theoretical Surgery, Clinical Surgery, Operative Surgery, Theory of Medicine, Clinical Medicine, Pathological Anatomy, General Pathology, Forensic Medicine, and Obstetric Medicine. The student is examined on these subjects, and has to present a written thesis in Medicine, and one on Surgery. Before the student can pass his examination in this concluding course, he must present a certificate showing that he has gone through a half-yearly Clinical course of study under the chief Physicians at the hospital in Surgery, Medicine, Skin-Diseases, and Syphilis; and a shorter course at the Lying-in Institution in Obstetrics and Diseases of Children.

When these examinations are taken, the obligatory course of study is concluded by a residence at the Lying-in Institution, in order to obtain a practical knowledge of operations in cases of abnormal labours. The candidate who has passed his examination has now a right to practise medicine; but the majority of candidates, before commencing to practise, endeavour to obtain an appointment at one of the hospitals, where they do duty during two years in a subordinate position. The entire course of study generally covers a period of from six to seven years.

In order to obtain the degree of Doctor of Medicine, the candidate has to prepare and submit to the Medical Faculty a treatise on a medical subject chosen by himself. If it be accepted by the Faculty, it is printed, and must be defended by the author publicly at the University, when at least two professors of the Medical Faculty appear as opponents. At most only about 10 per cent. of the medical men in Denmark endeavour to obtain this degree.

Among other means for aiding the labours of the student at the University are: The Botanical Gardens, a Zoological Museum, a Chemical Laboratory, a Collection of Physical Instruments, an Anatomical Museum, Dissecting Rooms (Physiological Collection and Laboratory), Pharmacological Collection, Collection of Surgical Instruments, Pathological Museum, the Copenhagen hospitals and the Lying-in Institution.

No entrance fees are demanded, and all the lectures are free to the students. The fees payable in respect of the several examinations amount in all to 60 *Kroner* (about £3 10s.) The expenses in connection with obtaining the degree of Doctor of Medicine amount to 160 *Kroner* (about £9).

Ten professors are attached to the University, namely: two in Medicine (Theoretical and Clinical), two in Surgery (Theoretical and Clinical), one in Pathological Anatomy, one in Obstetric Medicine and Diseases of Women and Children, one in Normal Anatomy, one in Physiology, one in Pharmacology and Materia Medica, one in Forensic Medicine, Hygiene, and Psychiatry, beside a permanent *docent* for Syphilis and Skin-Diseases.

In addition, lectures are given by the chief physicians attached to the various wards of the hospitals. Six of the professors of the University act as chief physicians in the Copenhagen hospitals.

MEDICAL EDUCATION IN SWEDEN.

THERE are three medical institutions in Sweden which confer licences to practise, viz., in the Universities of Upsala and Lund, and the Karolina Medico-Chirurgical Institute or Academy of Medicine in Stockholm. The Universities also confer the degree of Doctor of Medicine. A Medical School, with professors of the various branches of medical science, is connected with each.

The three institutions possess museums of normal and pathological anatomy, collections of chemical and pharmaceutical preparations and drugs, of surgical and obstetric instruments, physiological and pathological laboratories, and other means of instruction.

Upsala possesses a hospital of 150 beds, which is entirely at the disposal of the University for the purpose of clinical teaching. The professors of medicine and surgery are *ex officio* medical officers of the hospital. Of the 150 beds, 100 or a few more are generally occupied, and are divided among medical, surgical, syphilitic and obstetric cases.

In Lund, clinical instruction is given in the State Hospital, and also in the University Hospital. In the latter, there are 80 beds for medical and 80 for surgical cases, with 67 beds in the syphilitic and 8 in the obstetric departments. Of these, 40 beds in the medical and 40 in the surgical department are appropriated to clinical instruction, which is given by the professors of medicine and surgery. The obstetric department is also clinical. Clinical instruction in the diseases of the eye is also given.

In Stockholm, the pupils of the Karolina Institution receive clinical instruction at the Seraphim Hospital, the Children's and Lying-in Hospitals, the Town and State Lock Hospital, and the Lunatic Asylum at Konradsberg.

At the Seraphim Hospital, there are two medical and two surgical wards, under the charge of the ordinary and adjunct professors of medicine and surgery; and also a small gynaecological ward. It contains about 300 beds. An ophthalmic clinic is comprised in the surgical department; and the gynaecological clinic (of eight beds) is attached to the medical.

The Lying-in Hospital or Obstetric Clinic, can accommodate thirty patients; twenty beds are generally occupied. The professor of obstetrics in the Karolina Institution is *ex officio* chief physician, and takes charge of the wards for eight months in the year, being replaced by the adjunct professor for the remaining four months.

The whole of the cases in the General Orphan Hospital are available for clinical instruction. The daily number of infants under one year old in the institution is from 100 to 200; sometimes it has been as high as 240. Of these 10 or 12 per cent. are generally on the sick-list. There are also about 80 children between one and fifteen years of age. In addition, from 1,600 to 2,000 are attended yearly as out-patients. Clinical instruction is given by the professor of diseases of children for eight months in the year, and four months by his adjunct.

The Town and State Lock Hospital has 180 beds, of which, on an average, 140 are occupied daily.

The Hospital for the Insane at Konradsberg has 220 beds, which are all available for clinical instruction. The professor of psychological medicine in the Karolina Institute is the chief physician.

REGULATIONS FOR THE LICENCE AND DEGREE.

No one can practise medicine in Sweden who has not obtained a licence from one of the three boards. The candidate for matriculation must have a certificate from a *Gymnasium*. Three years after matriculating, the student must pass the medico-philosophical examination, in Physics, Chemistry, Mathematics, Botany, Zoology, and Comparative Anatomy. Three years later, he must pass the Examination for the diploma of Candidate in Medicine, including Anatomy, Physiology, Physiological Chemistry, General Pathology, Pathological Anatomy, and Pharmacology. Four years later, he must pass the final examination, in Practical Medicine and Surgery, Obstetrics, Ophthalmology, and Medical Jurisprudence.

The degree of Doctor of Medicine is conferred by the Universities of Lund and Upsala on Licentiates of those Universities and of the Academy at Stockholm, on their presenting and defending a thesis.

Attendance on lectures is obligatory for the Degree but not for the Licence; for both, however, the student must attend clinics for one year and a half.

MEDICAL EDUCATION IN NORWAY.

In the University of Christiania, which is the only School of Medicine in Norway, lectures are delivered on the following subjects: Surgery, Ophthalmic Surgery, Physiology, Midwifery and Diseases of Women and Children, Descriptive Anatomy, Forensic Medicine, Pathology and Therapeutics, Hygiene, *Materia Medica*, General Pathology and Pathological Anatomy, Surgical Pathology, Zoology, and Chemistry. Clinical instruction is given in the General Hospital on Surgery, Ophthalmic Surgery, Medicine, Diseases of the Skin and Syphilis; at the Lying-in and Children's Hospital, on the Diseases of Women and Children; at the Gansstead Asylum and at the Christiania Lunatic Asylum, on Mental Diseases; and in the Town Hospital, on Chronic Diseases. Practical instruction is also given in Chemistry, Anatomy, and Botany.

LICENSES AND DEGREES.

Before entering on the study of medicine, the candidate has to pass two preliminary examinations: one in Arts, including Norwegian, Latin, Greek, French, German, English, Mathematics, Geography, and History; and one in Philosophy, including Geometry, Zoology, Botany, Astronomy, and the elements of Chemistry and Physics. Having passed these, he is admitted to matriculation, and afterwards pursues the study of Medicine nearly seven years.

There are three professional examinations. The first is held two and a half years after Matriculation, in Anatomy, Dissections, the use of the Microscope, Chemistry (organic and inorganic), Zoology, and Botany. The second, held three and a half years after the first, includes Physics, Pharmacology, Toxicology, Medicine, Therapeutics, General Pathology, Pathological Anatomy, Surgery, Ophthalmology, Skin-Diseases, and Syphilis. The third examination, held about a year after the second, comprises Surgery and Bandaging, Topographical Anatomy, Obstetrics and Gynaecology, Diseases of Children, Forensic Medicine, Hygiene, and a Practical Examination in Medicine and Surgery. Practical work in the Hospital Wards is also obligatory.

On passing the final examination, the candidate

becomes a physician, and obtains the right to practise. To obtain the degree of Doctor, he must pass a further examination, and present and defend a thesis.

MEDICAL GRADUATION IN HOLLAND.

DEGREE OF DOCTOR OF MEDICINE.

The degree of Doctor of Medicine is granted in Holland by the Universities of Groningen, Leyden, and Utrecht. Candidates for matriculation must produce evidence of gymnasial maturity, or undergo an equivalent examination. The course of study, including laboratory work and hospital practice, extends over six years. The final examination embraces all the subjects of medical study and the presentation and defence of a thesis. The degree does not grant a license to practise.

STATE EXAMINATION.

This examination is conducted by eight professors, appointed annually and paid by the government. The applicant for admission must be a Doctor of Medicine of some University, or possess a certificate of gymnasial maturity, or pass a preliminary literary and philosophical examination. The course of medical study must extend over at least six terms. The medical examination includes General and Special Pathology, Pharmacology, Morbid Anatomy, Medical Jurisprudence, Clinical Medicine, Clinical Surgery, and Obstetrics.

MEDICAL DEGREES IN BELGIUM.

DEGREES in Medicine are granted by the Universities of Brussels, Ghent, Liège, and Louvain. The Universities of Brussels and Louvain confer only scientific titles, without license to practise; the degrees of the other two, when legalised by a Government commission, give the right of practice in Belgium.

UNIVERSITY OF BRUSSELS.

By the regulations of the University of Brussels, British and other medical practitioners, provided with proper qualifications, are admitted to examination before the Faculty for the degree of M.D. Residence is not required from such as are unable to absent themselves long by reason of their professional occupations.

Candidates must come in person and have their names inscribed in the books of the University. The fees are, for inscription of name, 215 fr. (8*l.* 12*s.*); for examinations, 315 fr. (12*l.* 12*s.*); for registration of diploma, 10 fr. (8*s.*); total, 540 fr. (21*l.* 12*s.*) The examination consists of three parts: 1. General Therapeutics, including Pharmacodynamics (proportions of doses), Special Pathology and Therapeutics of Internal Diseases, General Pathology, and Pathological Anatomy. 2. Surgical Pathology, Ophthalmology, Theory of Midwifery, Public and Private Hygiene, Medical Jurisprudence. Examination at the Hospital of one or two patients under Medical and Surgical Treatment; Examination in Midwifery, consisting in Obstetrical Operations on the *mannequin* (model of pelvis); Examination in Operative Surgery, consisting of some of the usual operations on the dead subject, such as amputation, ligature of an artery, etc.

Great importance is attached to practical knowledge, but candidates must also prove that they possess positive theoretical science.

Examinations take place at any time between October 15th and June 20th, except during Christmas and Easter. They are *visà voce* and written, but candidates may be exempted from the former and confine themselves to the written tests by paying an additional fee of 1*l.* for each test. Candidates must exhibit their qualifications or diplomas.

The three examinations may be got through in a week, allowing a day's interval between each two tests. Saturday is the most eligible day for arriving, for candidates for whom time is an object. The delay of a week is, however, never exceeded by more than a day or two.

The examinations are conducted in English through the medium of an interpreter, for such candidates as are not familiar with the French language.

Candidates who are not foreign qualified medical men must undergo the above-mentioned examinations, and also an examination in Anatomy, Physiology, and Histology, and must produce a degree in Arts or Science from a recognised University, or pass a preliminary examination; they must also have attended for five years the lectures in a medical college, or for three years the medical and surgical practice of a hospital.

UNIVERSITY OF GHENT.

A CANDIDATE for matriculation at this University must be a graduate in Arts of some University, or must pass a preliminary examination. He must then attend for two years a scientific course, including, Psychology, Chemistry, Physics, Botany, Zoology, and Mineralogy, and at the end of the time pass an examination in these subjects. After this, he must attend lectures for five years, and hospital practice for three years.

The following examinations must be passed: 1. At the end of the second year of medical study, in Descriptive Anatomy, Histology, Physiology, Pharmacology, and Comparative Anatomy; 2. At the end of the fourth year, in General Pathology, Therapeutics, Theory and Practice of Medicine, and Morbid Anatomy; 3. At the end of the fifth year, in Theory and Practice of Surgery and in Obstetrics. The final examination for the Doctorate includes the general subjects of medical study, with practical examinations in Clinical Medicine, Clinical Surgery, Obstetrics, and Operative Surgery. Candidates who have attended the requisite lectures and hospital practice elsewhere are admitted to the final examination if they possess a degree in Arts or pass the matriculation examination of the University.

UNIVERSITY OF LIÈGE.

THE University grants a degree in Medicine, Surgery, and Midwifery, which can only be obtained after passing three examinations, in the French language, in natural sciences and medical subjects.

The first examination includes the following subjects: General Chemistry, Logic, Psychology, Moral Philosophy, Experimental Physics, Elements of Zoology, Elements of Botany (comprising the medical category), Elementary Geology and Mineralogy. This is called the examination for candidates in natural sciences.

The second examination, which is for candidates

in medicine, includes Elements of Comparative Anatomy, Descriptive and Regional Anatomy, Human Physiology, and Pharmacology.

The third examination, which, when successfully passed, entitles the candidate to the Doctorate, includes the following subjects, viz., General Pathology, Pathological Anatomy, Special Pathology and Therapeutics, Mental Maladies, General Therapeutics, Surgical Pathology and Ophthalmology, Theory and Practice of Midwifery (including operations), Public Hygiene, Legal Medicine, Clinical Medicine, Clinical Surgery, Surgical Operations.

The fees are—for the first examination, 80 *fr.*; second, 40 *fr.*; doctor in medicine, 240 *fr.*; total, 300 *fr.*, or about £15.

UNIVERSITY OF LOUVAIN.

THIS University, before granting the usual degree, insists upon compliance with the following conditions, viz.: 1. An examination in one group (or branch) of the sciences, Mathematics, Physico-chemistry, or Natural Sciences. 2. An examination upon all medical subjects, in the French language.

Candidates for the degree of Doctor must have studied medicine five years at a recognised medical college or university, and have attended hospital practice for three years, at a recognised hospital.

The University of Louvain consists of several colleges, and the buildings of the Halles, and contains a library of 70,000 volumes.

MEDICAL DEGREES IN ITALY.

THE Italian universities at which degrees in medicine are granted are, Bologna, Catania, Padua, Palermo, Pavia, Pisa, Rome, Siena, and Turin. There is also a preparatory School of Medicine at Ferrara.

The regulations for Graduation in Medicine in the Universities of Italy are as follows.

1. The Medico-Chirurgical Faculty has the duty of giving instruction in all subjects relating to medicine and surgery, promoting the cultivation of all that is known in that field, and qualifying for the exercise of the medical profession in its various branches.
2. The course of medical and surgical study extends over six years, at the end of which free license to practise is granted.
3. The following courses of instruction are obligatory: General Chemistry, Organic and Inorganic; Botany; Zoology, with Comparative Anatomy and Physiology; Experimental Physics; Normal Human Anatomy; (*i.e.*, Histology, Descriptive and Topographic Anatomy, and Dissection); Human Physiology; General Pathology; Pathological Anatomy (demonstrations and exercises); Materia Medica and Experimental Pharmacology; Special Medical Pathology (or Principles and Practice of Medicine); Special Surgical Pathology (Surgery); Clinical Medicine and Exercises in Semiotics; Clinical and Operative Surgery; Theory and Practice of Ophthalmic Surgery; Theory and Practice of Diseases of the Skin and Syphilis; Midwifery and Clinical Midwifery; Forensic Medicine and Public Hygiene; Theoretical and Clinical Psychiatry (where opportunities exist).
4. The obligatory courses must each be attended one year; except Pathological Anatomy, of which two years are required, and Human Anatomy and Clinical Medicine and Surgery, each three years.
5. The following courses are non-obligatory or com-

plementary: Medical Chemistry; Experimental Toxicology; Critical History of Medicine. 6. Besides these, other free courses may also be given. 7. There shall be three biennial examinations in the Faculty of Medicine; the first for 'promotion'; the second for 'license'; the third for the degree of 'laureate', with a diploma conferring full licence to practise. 8. In the Universities of Pisa and Siena the licentiate shall have the title of laureate of the first stage (*laurea di primo grado*). 9. In order to be admitted to the first examination (*promozione*) the candidate must have been a student at the University at least two years, and have diligently attended the Courses of Chemistry, Botany, Zoology, Comparative Anatomy and Physiology, Experimental Physics, Human Anatomy, and any subjects of instruction that he may choose, so as to make up eighteen hours of instruction per week. 10. The subjects of examination shall be Chemistry, Botany, Zoology, Comparative Anatomy and Physiology, and Experimental Physics. The Examining Board shall consist of the official teachers of the subjects of examination, with one or two additional examiners not belonging to the teaching body. On the proposal of the Faculty, and with the consent of the Minister, the examination for promotion may be divided into two parts, one to be held at the end of the first year, and the other at the end of the second year. At the beginning of each scholastic year, the Faculty shall determine what courses are to be followed and when. 11. The candidate for admission to the several examinations (license) must have passed the first examination, have attended the University during two other years, and have diligently attended courses of Human Anatomy and Physiology, General Pathology, Practical Pathological Anatomy, Materia Medica and Experimental Pharmacology, Special Medical Pathology, Special Surgical Pathology, Clinical Medicine, and Clinical Surgery. 12. The Examining Board shall be composed of the official teachers of the subjects mentioned, with one or two assessors not belonging to the teaching body. The examination shall be oral, and practical as regards Human Anatomy and Materia Medica. 13. A candidate for admission to the third examination (*laurea*) must have passed the second examination, have subsequently been a student at the University during two years, and have diligently attended the courses of Clinical Dermatology and Syphilology, Clinical Ophthalmic Surgery, Midwifery and Clinical Midwifery, Clinical Psychiatry, Exercises in Pathological Anatomy, Clinical Medicine and Surgery, Operative Surgery, Forensic Medicine and Hygiene, and voluntary courses so as to make up eighteen hours of instruction each week. 14. The candidate has to undergo an examination on the dead body and two clinical examinations. 15. The examination on the dead body shall be conducted by a sub-committee consisting of all the professors of Operative Surgery, Pathological Anatomy, and Forensic Medicine, with one or two assessors not belonging to the official teaching body. 16. In this examination, the candidate will perform on the dead body a surgical operation, the nature of which will be decided by lot from a series prepared by the sub-committee. He will also perform a necropsy, and draw up a description of the appearances seen. Finally, he will answer the questions put to him by the examiners, and especially on the results of the necropsy, which are asked by the professor of forensic medicine. 17. The first clinical examination will be conducted in the presence of a sub-committee consist-

ing of the professors of Clinical Dermatology and Syphilology, Clinical Obstetrics, Clinical Psychiatry, Clinical Ophthalmology, and Forensic Medicine, with one or two extra-professorial assessors. 18. In this examination the candidate will examine four cases of disease selected from the four special classes, which have not previously been examined or treated in the clinical wards, and will give his opinion on the diagnosis, prognosis, and treatment. He will afterwards answer the questions and observations of the examiners, and especially will reply to the questions put by the professor of Forensic Medicine on the obstetric and psychological cases. 19. The several clinical examinations shall be conducted in the presence of a sub-committee, consisting of the Professors of Clinical Medicine, Clinical Surgery, Medicine, Surgery, and Forensic Medicine, with one or two extra-professorial assessors. 20. The candidate shall examine, in the presence of the subcommittee, four patients, two medical and two surgical, who have not yet been examined or treated in the wards, and shall write a description of the cases. He shall, finally, answer the questions asked by the examiners. 21. A student must have passed each stage of the third examination before he can be admitted to the next stage. 22. In each examination, a student rejected in one subject alone may present himself for examination in this subject only on a future occasion; but if he be rejected in two or more subjects, the whole examination must be repeated. 23. The three stages of the third examination having been passed, the three subcommittees unite to form a committee, presided over by the President of the Faculty, and will judge of the merits of the candidates. The successful candidates will be declared doctors in medicine and surgery, and the president will refer them to the Rector, in order that they may receive the diploma of laureate.

Foreigners desirous of obtaining medical degrees in Italian Universities must produce a diploma or degree obtained at some noted foreign university, and must at the same time produce satisfactory proof that they have actually gone through all the studies and passed the examinations required for that degree. They must also pass the ordinary examinations for the medical degree and pay the respective fees. The examinations are usually conducted in the Italian or the Latin language.

MEDICAL EDUCATION IN PORTUGAL.

IN Portugal there is one University, that of Coimbra, with a Faculty of Medicine. There are also medical schools at Lisbon and at Oporto.

At the University of Coimbra, students desirous of entering the Faculty of Medicine must pass a matriculation examination in Latin, Portuguese, French, English, Mathematics, Elementary Physics, Chemistry, Natural History, Logic, History, and Geography. The subsequent course of medical study extends over five years of nine months each, and is as follows. *First Year:* Chemistry (organic and inorganic), Physics, and Anatomy. *Second Year:* Zoology, Physiology, Anatomy, and Histology. *Third Year:* Botany, Pharmacology, General Pathology, Clinical and Operative Surgery. *Fourth Year:* Special Pathology, Surgery, Pathological Anatomy, Medical and Surgical Clinics. *Fifth Year:* Legal Medicine, Toxicology, Hygiene, Obstetrics and

Gynæcology, Medical, Surgical, and Obstetrical Clinics. An examination is held at the end of each year. After passing the fifth examination, the candidate receives the title of Licentiate, with right to practise.

The degree of Doctor of Medicine can only be obtained by a Licentiate, on presentation and defence of a thesis.

A foreigner who wished to obtain the permission to practise in Portugal would have to present: (a). A certificate of having passed an examination in arts, signed by the respective consuls or ambassadors of his country; (b). A medical diploma from a Government University or medical school; (c). He must pass an examination in all the branches of medicine; (d). He must present a printed dissertation to the Faculty, and defend it.

MEDICAL EDUCATION IN THE UNITED STATES.

THE United States possess a very large number of institutions empowered by charter to grant the degree of doctor of medicine; there being, in some instances, special colleges and schools of medicine and surgery, and in others the medical departments of Universities. We are indebted to an interesting article on Literature and Institutions, by Dr. J. S. Billings, of the United States Army, published as a part of the *Century of American Medicine*, for a carefully prepared list of the medical schools. In reproducing it, we omit a number of institutions—twenty-five in all—which have ceased to grant medical degrees. The dates indicate the years in which the degrees in medicine were first conferred by the respective bodies.

Alabama.—Medical College of Alabama (Mobile); 1860.

California.—Medical College of the Pacific University (City) College (San Francisco): 1859.—University of California (San Francisco): 1865.

Connecticut.—Medical Department of Yale College (New Haven): 1814.

District of Columbia.—National Medical College, Medical Department of Columbian University (Washington): 1826.—Georgetown University (Washington): 1852.—Howard University (Washington): 1871.

Georgia.—Medical College of Georgia (Augusta): 1833.—Savannah Medical College: 1854.—Atlantic Medical College: 1855.

Illinois.—Rush Medical College, Medical Department of University of Chicago: 1844.—Chicago Medical College, Medical Department of Northwestern University: 1860.

Indiana.—Medical College of Evansville: 1850.—Indiana Medical College (Indianapolis): 1870.—Indiana College of Physicians and Surgeons (Indianapolis): 1875.

Iowa.—College of Physicians and Surgeons (Keokuk): 1850.—Iowa State University (Iowa City): 1871.

Kentucky.—University of Louisville: 1838.—Kentucky School of Medicine (Louisville): 1851.—Louisville Medical College: 1870.—Hospital College of Medicine, Medical Department of Central University (Louisville): 1875.

Louisiana.—University of Louisiana (New Or-

leans): 1835.—Charity Hospital Medical College of New Orleans: 1876.

Maine.—Bowdoin College and Medical School Maine: 1821.

Maryland.—University of Maryland (Baltimore): 1811.—Washington University School of Medicine (Baltimore): 1828.—College of Physicians and Surgeons (Baltimore): 1873.

Massachusetts.—Harvard University (Boston 1785.

Michigan.—University of Michigan (Ann Arbor): 1851.—Detroit Medical College: 1869.

Missouri.—Missouri Medical College (St. Louis): 1841.—St. Louis Medical College: 1843.—Kansas City College of Physicians and Surgeons: 1870.

New Hampshire.—Medical School of Dartmouth College (Hanover): 1798.

New York.—College of Physicians and Surgeons of the City of New York: 1769.—Albany Medical College: 1839.—University of the City of New York: 1842.—University of Buffalo: 1847.—Long Island College Hospital (Brooklyn): 1860.—Bellevue Hospital Medical College (New York): 1862.—College of Medicine of Syracuse University: 1873.

Ohio.—Medical College of Ohio (Cincinnati): 1821.—Starling Medical College (Columbus): 1836.

—Cleveland Medical College: 1844.—Cincinnati College of Medicine and Surgery: 1852.—Miami Medical College (Cincinnati): 1853.—University of Wooster (Cleveland): 1865.

Oregon.—Williamette University (Salem): 1867.

Pennsylvania.—University of Pennsylvania (Philadelphia): 1768.—Jefferson Medical College (Philadelphia): 1826.

South Carolina.—Medical School of the State of South Carolina (Charleston): 1825.—University of South Carolina (Columbia): 1868.

Tennessee.—University of Nashville: 1852.—Vanderbilt University (Nashville): 1875.

Texas.—Galveston Medical College: 1866.—Texas Medical College and Hospital (Galveston): 1874.

Vermont.—University of Vermont and State Agricultural College (Burlington): 1823.

Virginia.—University of Virginia (Charlottesville): 1828.—Medical College of Virginia (Richmond): 1839.

HARVARD UNIVERSITY, BOSTON.

THE following is the staff of professors in the medical department of this University: Dr. Calvin Ellis (Clinical Medicine), Dean; Dr. R. Fitz (Pathological Anatomy); Dr. Oliver W. Holmes (Anatomy); Dr. Henry J. Bigelow (Surgery); Dr. John P. Reynolds (Obstetrics); Dr. Francis Minot (Theory and Practice of Medicine); Dr. Henry W. Williams (Ophthalmology); Dr. David W. Cheever (Clinical Surgery); Dr. James C. White (Dermatology); Dr. Robert T. Edes (Materia Medica); Dr. Henry P. Bowditch (Physiology); Dr. Edward S. Wood (Chemistry); Dr. Cutler (Pathological Anatomy—Assistant). The following are instructors. Dr. Charles B. Porter (Surgery); Dr. F. I. Knight (Percussion, Auscultation, and Laryngoscopy); Dr. J. Collins Warren (Surgery); Dr. Wm. L. Richardson (Obstetrics); Dr. Thomas Dwight (Histology); Dr. W. H. Baker (Gynæcology); Dr. W. B. Hills (Chemistry); Dr. G. H. F. Markoe (Materia Medica). Dr. H. H. A. Beach is Assistant Demonstrator of Anatomy; Dr. F. W. Draper lectures on Forensic Medicine, Dr. C. F. Polson on Hygiene. Special

Clinical Instruction is given—in Syphilis, by Drs. F. B. Greenough and E. Wigglesworth; in Otology, by Drs. J. O. Green and C. J. Blake; in Diseases of Children, by Drs. J. P. Oliver and T. M. Potch; and in Diseases of the Nervous System, by Drs. S. G. Webber and J. J. Putnam.

All candidates for admission after September 1880, who hold no degree in arts or science, must pass a written examination on entrance to this School, in English, Latin, Physics, and in any one of the following subjects: French, German, Elements of Algebra or of Plain Geometry, Botany.

Instruction is given by lectures, recitations, clinical teaching, and practical exercises, distributed throughout the academic year. The year, which begins on September 30 and ends on the last Wednesday in June 1881, is divided into two equal terms.

The course of study recommended by the Faculty covers four years, but until further notice the degree of Doctor of Medicine will continue to be given upon the completion of three years of study, to be as ample and full as heretofore. The degree of Doctor of Medicine *cum laude* will be given to candidates who have pursued a complete four years' course, and obtained an average of 75 per cent. upon all the examinations of this course. In addition to the ordinary degree of Doctor of Medicine as heretofore obtained, a certificate of attendance on the studies of the fourth year will be given to such students desiring it as shall have attended the course, and have passed a satisfactory examination in the studies of the same.

The order of studies and examinations for the four years' course is as follows: *First Year*.—Anatomy, Physiology, and General Chemistry. *Second Year*.—Practical and Topographical Anatomy, Medical Chemistry, Materia Medica, Pathological Anatomy, Clinical Medicine, Surgery, and Clinical Surgery. *Third Year*.—Therapeutics, Obstetrics, Theory and Practice of Medicine, Clinical Medicine, Surgery, and Clinical Surgery. *Fourth Year*.—Ophthalmology, Otology, Dermatology, Syphilis, Laryngology, Mental Diseases, Diseases of the Nervous System, Diseases of Women, Diseases of Children, Obstetrics, Clinical and Operative Obstetrics, Clinical Medicine, Clinical and Operative Surgery, Hygiene, Forensic Medicine. Students are divided into four classes, according to their time of study and proficiency, and during their last year will receive largely increased opportunities of instruction in the special branches mentioned. Students who began their professional studies elsewhere may be admitted to advanced standing; but all persons who apply for admission to the advanced classes must pass an examination in the branches already pursued by the class to which they seek admission. The examinations are held in the following order: End of first year—Anatomy, Physiology, and General Chemistry. End of second year—Topographical Anatomy, Medical Chemistry, Materia Medica, and Pathological Anatomy. End of third year—Therapeutics, Obstetrics, Theory and Practice of Medicine, Surgery. End of fourth year—Ophthalmology, Otology, Dermatology, Syphilis, Laryngology, Mental Diseases, Diseases of the Nervous System, Diseases of Women, Diseases of Children, Obstetrics, Clinical and Operative Obstetrics, Clinical Medicine, Clinical and Operative Surgery, Hygiene, Forensic Medicine.

The order for the three years' course is as follows: *First Year*.—Anatomy, Physiology, and General Chemistry. *Second Year*.—Practical and Topographical Anatomy, Medical Chemistry, Materia Medica,

Pathological Anatomy, Clinical Medicine, and Clinical Surgery. *Third Year*.—Therapeutics, Obstetrics, Theory and Practice of Medicine, Clinical Medicine, Surgery, Clinical Surgery, Ophthalmology, Dermatology, Syphilis, Otology, Laryngology, Mental Diseases, Diseases of the Nervous System, Diseases of Women, Diseases of Children, Hygiene, Forensic Medicine. Students following this course are classified as heretofore, and the instruction in the special branches is of the same character as that which has been given for several years. The examinations of the first two years are common to both groups of students. The final examinations at the close of the third year are in the following subjects: Therapeutics, Obstetrics, Surgery and Clinical Surgery, Theory and Practice, Clinical Medicine.

Examinations in all subjects are also held before the opening of the School, beginning September 27.

Every candidate for a degree must be twenty-one years of age; must have studied medicine three or four full years, have spent at least one continuous year at this School, have passed a written examination upon all the prescribed studies of the course taken, and have presented a thesis.

Course for Graduates.—For the purpose of affording to those already Graduates of Medicine additional facilities for pursuing clinical, laboratory, and other studies, in such subjects as may specially interest them, the Faculty has established a course which comprises, in addition to the list of special departments above stated, the following branches: Histology; Physiology; Medical Chemistry; Pathological Anatomy. On payment of the full fee the privilege of attending any of the other exercises of the Medical School, the use of the laboratories and library, and all other rights accorded by the University will be granted. Single branches may also be pursued. Graduates of other Medical Schools who may desire to obtain the degree of M.D. at this University will be admitted to examination for this degree after a year's study in the Graduates' Course. Examination on entrance is not required.

Fees.—The fees are: for Matriculation, 5 dollars; for the year, 200 dollars: for one term alone, 120 dollars; for Graduation, 30 dollars. For Graduates' course the fee for one year is 200 dollars; for one term, 120 dollars; and, for single courses, special fees. Payment is made in advance.

Members of any one department of Harvard University have a right to attend lectures and recitations in any other department without paying additional fees.

COLLEGE OF PHYSICIANS AND SURGEONS OF NEW YORK.

THIS is otherwise known as the Medical Faculty of Columbia College. The instruction is given by the following professors, etc.: Dr. Alonzo Clark (Pathology and Practical Medicine); Dr. Willard Parker (Clinical Surgery); Dr. J. C. Dalton (Physiology and Hygiene); Dr. T. M. Markoe (Principles of Surgery); Dr. T. Gaillard Thomas (Gynecology); Dr. J. T. Metcalfe (*Emeritus* Clinical Medicine); Dr. H. B. Sands (Practice of Surgery); Dr. J. W. McLane (Obstetrics and the Diseases of Children); Dr. T. T. Sabine (Anatomy); Dr. C. F. Chandler (Chemistry and Medical Jurisprudence); Dr. E. Curtis (Materia Medica and Therapeutics); Dr. F. Delafield (Adjunct Pathology and Practical Medicine); Dr. J. G. Curtis (Adjunct Physiology and Hygiene); Dr. Wm. Loomis (*Emeritus* Military and Clinical Surgery);

Dr. W. H. Draper (Clinical Medicine); Dr. Cornelius R. Agnew (Clinical Diseases of the Eye and Ear); Dr. Abraham Jacobi (Clinical Diseases of Children); Dr. Fessenden N. Otis (Clinical Venereal Diseases); Dr. Edward C. Seguin (Clinical Diseases of the Mind and Nervous System); Dr. G. M. Leferts (Clinical Laryngoscopy and Diseases of the Throat); Dr. C. McBurney (Demonstrator of Anatomy); Dr. Francis Delafield (Director of the Pathological Laboratory); Dr. W. T. Bull and Dr. W. S. Halsted (Assistant Demonstrators of Anatomy).

The Collegiate Year consists of a regular Winter Session, attendance upon which is required for the graduation. The Regular Winter Session for 1880-81 begins October 1st, and continues till May. Tuition is by the following methods:

1. *Didactic Lectures*.—During the Session from two to six lectures are given daily by the Faculty. Attendance is obligatory.

2. *Clinical Teaching*.—Ten clinics, covering all departments of medicine and surgery, are held weekly throughout the entire year in the College Building. In addition, the Faculty give daily clinics at the larger City Hospitals and Dispensaries (such as the Bellevue Charity, New York, and Roosevelt Hospitals, the New York Eye and Ear Infirmary, etc.), as a regular feature of the college curriculum. Attendance is optional.

3. *Recitations* are held daily. Attendance is optional.

Personal Instruction.—Cases of Obstetrics are furnished without charge. Personal instruction is given in Practical Anatomy, Experimental Physiology, Operative Surgery, Minor Surgery, Physical Diagnosis, Ophthalmology, Otology, Laryngoscopy, Normal and Pathological Histology, and the Examination of the Urine. Attendance is optional, except upon Practical Anatomy.

Candidates for the Degree of Doctor of Medicine must have attended two full courses of lectures on Anatomy, Physiology, Chemistry, Materia Medica and Therapeutics, Obstetrics, Surgery, Pathology, and Practical Medicine; the second course must have been given in this College. Students are permitted—and are recommended—to complete the two full courses by attendance during three or more sessions, taking only certain branches in each session. Candidates must have studied Practical Anatomy during one winter session; have been engaged during three years in the study of medicine under a regular physician or surgeon; have attained the age of 21 years; and be of good moral character. Each candidate must present a thesis on some medical subject, and pass an examination in the seven branches of medical science above mentioned.

A rejected candidate may appear a second time for examination at the end of not less than five months. If he then again fails, he must matriculate, and attend a third course of winter lectures (on payment of the matriculation fee only), at this College, before he can appear a third time for examination.

Students who have attended two courses of lectures (one being at this College) on Anatomy, Physiology, and Chemistry, may be examined on these subjects at the end of their second course; and the examination, if satisfactory, is accounted final.

Students and graduates of other schools are admitted under special regulations.

The fees are: Yearly matriculation, 5 dollars; Course of Lectures each Session, 140 dollars; Prac-

tical Anatomy, 10 dollars, and a small charge for material graduation, 30 dollars.

UNIVERSITY OF THE CITY OF NEW YORK.

THE Professors in the Faculty of Medicine are: Dr. Alfred C. Post (*Emeritus* Professor of Clinical Surgery, and President); Dr. Charles I. Pardee (Diseases of the Ear—Dean); Dr. John C. Draper (Chemistry); Dr. Alfred L. Loomis (Pathology and Practice of Medicine); Dr. W. Darling (Anatomy); Dr. W. H. Thomson (Materia Medica and Therapeutics); Dr. J. W. S. Arnold (Physiology and Histology); Dr. J. Williston Wright (Surgery); Dr. Fanueil D. Weisse (Practical and Surgical Anatomy); Dr. W. H. Polk (Obstetrics, and Diseases of Women and Children); Dr. L. A. Stimson (Pathological Anatomy); Dr. A. L. Ranney (Adjunct Professor of Anatomy).

A Post-Graduate Course of Lectures is delivered by the following Professors: Dr. D. B. St. John Roosa (Ophthalmology); Dr. Wm. A. Hammond (Diseases of the Mind and Nervous System); Dr. Stephen Smith (Orthopaedic Surgery); Dr. J. W. S. Gouley (Diseases of the Genito-Urinary System); Dr. Montrose A. Pallen (Gynecology); Dr. Henry G. Piffard (Dermatology); Dr. A. E. Macdonald (Medical Jurisprudence); Dr. J. L. Little (Clinical Surgery); Dr. F. R. Sturgis (Venereal Diseases).

The Collegiate Year is divided into three Sessions: a Preliminary Session, a Regular Winter Session, and a Spring Session.

The Preliminary Session commences September 15, 1880. It will be conducted on the plan of the Winter Session. The Winter Session commences on September 29, and will end about March 1, 1881. The Spring Session will commence in the first week of March, and end in the last week of May.

The Professors of the Practical Chairs are connected with the Bellevue and Charity Hospitals, and the University Students are admitted to all the Clinics given therein, free of charge.

In addition to daily Hospital Clinics, there are eight Clinics each week in the College. Five Didactic Lectures are given daily in the College building, and Evening Recitations are conducted by the Professors of Chemistry, Practice, Anatomy, Materia Medica, Physiology, Surgery, and Obstetrics, upon the subjects of their lectures.

In the Spring Session, besides the daily Clinics, Recitations, and Special Practical Courses, as in Winter, there will be Lectures on Special Subjects by the members of the Post-Graduate Faculty.

The Dissecting-room is open throughout the entire Collegiate Year; material is furnished free of charge.

Students who have studied two years and have attended two full courses of lectures, may be admitted to examination in Chemistry, Anatomy, and Physiology, and, if successful, will be examined at the expiration of their full course of study, on Practice, Materia Medica and Therapeutics, Surgery, and Obstetrics; but those who prefer it may have all their examinations at the close of their full term.

Fees.—These are: for Course of Lectures, 140 dollars; Matriculation, 5 dollars; Demonstrator's Fee (including material for dissection), 10 dollars; Graduation Fee, 30 dollars; Post-Graduate Certificate, 30 dollars.

BELLEVUE HOSPITAL MEDICAL COLLEGE, NEW YORK.

THE teaching staff of the College consists of the following professors: Dr. Isaac E. Taylor (Obstetrics and Diseases of Women)—*Emeritus*; Dr. James R. Wood (Surgery)—*Emeritus*; Dr. Fordyce Barker (Clinical Midwifery and Diseases of Women); Dr. B. W. McCready (Materia Medica and Therapeutics and Clinical Medicine)—*Emeritus*; Dr. Austin Flint (Principles and Practice of Medicine, and Clinical Medicine); Dr. W. H. Van Buren (Principles and Practice of Surgery, Diseases of the Genito-Urinary System, and Clinical Surgery); Dr. Lewis A. Sayre (Orthopædic Surgery, and Clinical Surgery); Dr. Alexander B. Mott (Clinical and Operative Surgery); Dr. Wm. T. Lusk (Obstetrics and Diseases of Women and Children, and Clinical Midwifery); Dr. A. A. Smith (Materia Medica and Therapeutics, and Clinical Medicine); Dr. Austin Flint, jun. (Physiology and Physiological Anatomy); Dr. Joseph D. Bryant (General, Descriptive, and Surgical Anatomy); Dr. R. Ogden Doremus (Chemistry and Toxicology); Dr. Edward G. Janeway (Pathological Anatomy and Histology, Diseases of the Nervous System, and Clinical Medicine); Dr. Henry D. Noyes (Ophthalmology and Otolaryngology); Dr. John P. Gray (Psychological Medicine and Medical Jurisprudence); Dr. Erskine Mason and Dr. J. Howe (Clinical Surgery); Dr. Edward L. Keyes (Dermatology, and Adjunct to the Chair of Principles of Surgery); Dr. J. L. Smith (Diseases of Children); also the following lecturers: Dr. L. M. Yale (Adjunct, upon Orthopædic Surgery); Dr. F. H. Bosworth (Diseases of the Throat); Dr. C. A. Doremus (Practical Chemistry and Toxicology, and Animal Chemistry); Dr. F. A. Castle (Pharmacology); Dr. W. H. Welch (Pathological Histology); Dr. T. H. Burdard (Surgical Emergencies); Dr. C. S. Bull (Ophthalmology and Otolaryngology).

The Collegiate Year in this Institution embraces the Regular Winter Session, and a Spring Session. The Regular Session begins on Wednesday, September 15, 1880, and ends about the middle of March 1881. During this Session, in addition to four didactic lectures on every week day except Saturday, two or three hours are daily allotted to clinical instruction. Attendance upon three regular courses of lectures is required for graduation. The Spring Session consists chiefly of recitations from text-books. This Session begins about the middle of March and continues until the middle of June. During this Session, daily recitations in all the departments are held by a corps of examiners appointed by the Faculty. Short courses of lectures are given on special subjects, and regular clinics are held in the Hospital and in the College building.

Fees.—1. For the first and second years, each 140 dollars; for all third year's students and all graduates of other colleges, 100 dollars; Matriculation fee, 5 dollars; Demonstrator's ticket (including material for dissection), 10 dollars; Graduation fee, 30 dollars, or 10 dollars for each of the yearly examinations. 2. For the Spring Session: Matriculation (ticket valid for the following winter), 5 dollars; Recitations, Clinics, and Lectures, 35 dollars; Dissection (ticket valid for the following winter), 10 dollars.

The *Matriculation Examination* will consist of English composition (one foolscap page of original composition upon any subject, in the handwriting of the candidate); Grammar, an examination upon the above-mentioned composition; Arithmetic, including

vulgar and decimal fractions; Algebra, including simple equations; Geometry, first two books of Euclid. This examination will be waived for those who have received the degree of A.B., those who have passed the freshman examination for entrance into any incorporated literary college, those who present certificates of proficiency in the subjects of the matriculation examination from the principal or teachers of any reputable high school, and those who have passed a matriculation examination at any recognised medical college or at any scientific school or academy in which an examination is required for admission.

JEFFERSON MEDICAL COLLEGE, PHILADELPHIA.

The lectures during the coming winter session will be delivered by the following professors: Dr. Samuel D. Gross (Institutes and Practice of Surgery); Dr. Ellerslie Wallace (Obstetrics and Diseases of Women and Children); Dr. Roberts Bartholow (Materia Medica and General Therapeutics); Dr. Henry C. Chapman (Institutes of Medicine and Medical Jurisprudence); Dr. J. M. Da Costa (Practice of Medicine); Dr. W. H. Pancoast (General, Descriptive, and Surgical Anatomy); Dr. Robert E. Rogers (Medical Chemistry and Toxicology); Dr. Joseph Pancoast is *emeritus* professor of Anatomy.

A summer course of Supplementary Lectures is given, extending through April, May, and June. There is no additional charge for this course to matriculates of the College, except a registration fee of five dollars; non-matriculates may pay thirty-five dollars, which is, however, credited on the amount of fees paid for the ensuing Winter Course.

Clinical Instruction is given throughout the year at the Hospital of Jefferson College, which accommodates 100 patients. The staff is constituted as follows—*Physicians*: Dr. J. Solis-Cohen, Dr. J. C. Wilson, Dr. O. P. Rea, Dr. W. W. Vanzalvah; *Surgeons*: Dr. J. H. Brinton, Dr. S. W. Gross, Dr. R. J. Levis; *Ophthalmic Surgeon*: Dr. W. Thompson; *Aural Surgeon*: Dr. L. Turnbull; *Gynecologists*: Dr. F. H. Getchell, Dr. J. E. Mears; *Pathologist*: Dr. M. Longstreth.

A candidate for the degree of M.D. must be of good moral character and at least 21 years of age. He must have studied medicine for not less than three years, and have attended at least two full winter sessions of lectures, one of which must have been in this College. At least one course of Practical Anatomy and one of Clinical Instruction must have been attended; and he must present a thesis, of his own composition and in his own handwriting, on some medical subject.

No honorary degrees in medicine are granted by this College.

The *Fees* are: for a full Course, 140 dollars; Matriculation Fee (paid once only), 5 dollars; Practical Anatomy, 10 dollars; Graduation Fee, 30 dollars.

MEDICAL DEPARTMENT OF THE UNIVERSITY OF LOUISIANA.

THIS Faculty consists of the following Professors: Dr. T. G. Richardson (General and Clinical Surgery); Dr. Samuel M. Bemiss (Theory and Practice of Medicine and Clinical Medicine); Dr. Stanford E. Chaillé (Physiology and Pathological Anatomy); Dr. Joseph Jones (Chemistry and Clinical Medicine); Dr. Samuel Logan (Anatomy and Clinical Surgery);

Dr. Ernest S. Lewis (General and Clinical Obstetrics and Diseases of Women and Children); Dr. John B. Elliott (Materia Medica and Therapeutics and Clinical Medicine); Dr. E. Harrison (Lecturer on Diseases of the Eye).

The next annual course of instruction in this Department (now in the forty-seventh year of its existence) will commence on Monday, October 18th, 1880, and terminate on Saturday, March 12th, 1881. The first three weeks of the term will be devoted exclusively to Clinical Medicine and Surgery at the Charity Hospital; Practical Chemistry in the Laboratory; and Dissections.

The Act establishing the University of Louisiana gives the Professors of the Medical Department the use of the Charity Hospital, as a school of practical instruction. The Charity Hospital contains nearly 700 beds. The Medical, Surgical, and Obstetrical Wards are visited by the respective Professors in charge daily, from eight to ten o'clock a.m., at which time all the Students are expected to attend, and familiarise themselves, at the bedside of the patients, with the diagnosis and treatment of all forms of injury and disease. The regular lectures at the hospital, on Clinical Medicine by Professors Bemiss, Elliott and Joseph Jones; Surgery by Professors Richardson and Logan, Diseases of Women and Children by Professor Lewis, and Special Pathological Anatomy by Professor Chaillé, will be delivered in the Amphitheatre on Monday, Wednesday, Thursday and Saturday, from 10 to 12 a.m.

The Administrators of the Hospital elect, annually, twelve resident Students, who are maintained by the Institution. All vacancies filled by competitive examination.

Fees.—These are: For the Tickets of all the Professors, 140 dollars; for Practical Anatomy, 10 dollars; Matriculation Fee, 5 dollars; Graduation Fee, 30 dollars.

Candidates for graduation are required to be twenty-one years of age; to have studied three years; to have attended two courses of lectures, and to pass a satisfactory examination. Graduates of other respectable schools are admitted upon payment of the matriculation and half lecture fees. They cannot, however, obtain the Diploma of the University without passing the regular examinations and paying the usual Graduation Fee.

MEDICAL EDUCATION IN THE DOMINION OF CANADA.

THE following are the Medical Examining Bodies and Schools in the several provinces constituting the Dominion of Canada.

NOVA SCOTIA.—University of Halifax Faculty of Medicine; Halifax Medical College.

ONTARIO.—College of Physicians and Surgeons of Ontario; Medical Faculty of the University of Victoria College, Coburg; Medical Faculty of Queen's College, Kingston; Royal College of Physicians and Surgeons, Kingston; Medical Faculty of the University of Ottawa; Toronto University Faculty of Medicine; Trinity College Faculty of Medicine, Toronto; Toronto School of Medicine; Trinity Medical School.

QUEBEC.—College of Physicians and Surgeons of Quebec; Bishop's College University Faculty of Medicine, Montreal; Laval University, Montreal and Quebec; McGill University Faculty of Medicine.

TRINITY COLLEGE UNIVERSITY FACULTY OF MEDICINE.

THE following are the requisites for admission to the Degree of Bachelor of Medicine in this University. The candidate must have passed a Matriculation Examination in the following subjects, or one equivalent thereto, in this or in some other recognised institution. The subjects comprised are: English Language (including Grammar and Composition); Arithmetic; Algebra (including Simple Equations); Geometry (first two Books of Euclid); Latin (Translation and Grammar); and one of the following optional subjects: Greek, French, German, Natural Philosophy, including Mechanics, Hydrostatics, and Pneumatics. A Graduate or Matriculant in Arts, in any recognised University in Her Majesty's Dominions, is not required to pass the Matriculation Examination. He must produce a satisfactory certificate of good conduct, must be 21 years of age, and must have pursued Medical studies for at least four years, and have regularly attended lectures extending over at least three sessions* of six months each; viz., two courses of six months each on Anatomy, Practical Anatomy, Theory and Practice of Medicine, Principles and Practice of Surgery, General Chemistry, Midwifery, and Diseases of Women and Children, Materia Medica, and Therapeutics, Physiology and Institutes of Medicine; and one course on each, Medical Jurisprudence, Toxicology, Practical Chemistry, Botany, and Sanitary Science. He must also have attended for at least eighteen months the practice of some General Hospital, and have attended, during two sessions, Clinical Lectures on Medicine and Surgery; and, for at least six months, the practice of a Lying-in Hospital; or he must have otherwise enjoyed equivalent obstetrical advantages, with attendance upon at least six cases of Labour. He must have passed in this University an examination in all the above subjects. This course of study may have been pursued either wholly in Trinity Medical School, or partly in some other recognised Medical School. The last requirement does not apply to medical men coming up for an examination who have been several years in practice.

The examinations are Primary and Final. The Primary Examination embraces Descriptive Anatomy, Physiology and Microscopical Anatomy, General Chemistry and Chemical Physics, Practical Chemistry, Materia Medica and Therapeutics, Botany. It may be passed at the close of the second year's lectures.

The Final Examination embraces Medical and Surgical Anatomy, Theory and Practice of Medicine, including Medical Pathology, Principles and Practice of Surgery, Midwifery and Diseases of Women and Children, Medical Jurisprudence and Toxicology, and Sanitary Science. It takes place at the close of the last Winter Session.

Should the candidate desire it, he may undergo his entire examination in all the branches at the end of his last year's study. The examinations are held annually in the spring.

Degree of M.D.—Candidates for this Degree must be Bachelors of Medicine of at least six months' standing. They are required to send in, at least one month before Convocation, a Thesis on some Medical Subject, which Thesis must be approved by the Board of Examiners.

Fees.—These are: Primary Examination for the

* Students beginning their studies after June 1880, will be required to attend Four Sessions, unless in the case of Graduates in Arts.

Degree of M.B., 10 dollars; Final ditto, 14 dollars. Full Fee, including all College Examinations, 24 dollars. There is no additional fee for the degree of M.D.

HALIFAX UNIVERSITY AND MEDICAL COLLEGE.

CANDIDATES for the degree of Doctor of Medicine must have attended lectures for at least four years after passing the Matriculation Examination. This examination comprises the following subjects: 1. *Compulsory*: English Language (including Grammar, Composition, and Writing from Dictation); Arithmetic (including Vulgar and Decimal Fractions and the Extraction of the Square Root); Algebra (to the end of Simple Equations); Geometry (first two books of Euclid); Latin (one book, Translation and Grammar). 2. *Optional*: One of the following subjects: History of England, with questions in Modern Geography; French Translation; German Translation; One Greek Book; Natural Philosophy (including Mechanics, Hydrostatics, and Pneumatics); History of Nova Scotia; History of the Dominion of Canada. The fee is five dollars, and is not returned in case of failure. Candidates for this examination must be at least 16 years of age. Graduates in Arts of recognised Universities are not required to pass the Matriculation Examination.

Instruction in medicine in the surgery of a recognised practitioner for one year is received as equivalent to a year of study.

The professional examination is divided into primary and final. The former comprises Anatomy, Chemistry, Materia Medica, Physiology and Botany or Zoology; the latter, Medicine, Surgery, Obstetrics, and Medical Jurisprudence. Candidates may present themselves for the primary examination at the end of the third session, or third year of study.

Candidates for the final examination must produce certificates of having attended two six months' courses each of Anatomy, Chemistry, Materia Medica, Physiology, Surgery, Midwifery, Medicine, Practical Anatomy, Clinical Medicine, and Clinical Surgery; one three months' course each of Practical Pharmacy, Medical Jurisprudence, Botany, and Practical Chemistry; the practice of a recognised Hospital during twelve months; the practice of a Lying-in Hospital for at least six months (or of having attended at least six cases of labour); of having had three months' practice in Dispensing; and of having acquired proficiency in the practice of Vaccination. One session at least must be attended in the Halifax Medical College. Each candidate must present a thesis on some medical or surgical subject, and sign a declaration that he is twenty-one years of age. The examination is oral and written in all branches; and there is a Clinical Examination in Medicine and Surgery at the bedside.

The fee for the degree of Doctor of Medicine and Master of Surgery is twenty dollars, with a registration fee of one dollar.

MCGILL UNIVERSITY FACULTY OF MEDICINE.

THE Matriculation Examination comprises the following subjects: English Language (including Grammar and Composition); Arithmetic (including Vulgar and Decimal Fractions); Algebra (including Simple Equations); Geometry (first two books of Euclid); Latin (Translation and Grammar); and one of the following optional subjects: Greek, French,

German, Natural Philosophy, including Mechanics, Hydrostatics, and Pneumatics. Graduates in Arts of recognised Universities are not required to submit to the Matriculation Examination; and a certificate of having passed this examination before the College of Physicians and Surgeons of Ontario or of Quebec is accepted.

No one can be admitted to the Degree of Doctor of Medicine and Master of Surgery who shall not, in this or in some other University, College, or Medical School, approved of by this University, either have attended lectures for at least four six-months' sessions, or studied Medicine during at least four years, and during that time have attended lectures for at least three six-months' sessions.

Candidates for the Final Examination must furnish testimonials of attendance on the following courses: Anatomy, Chemistry, Materia Medica and Pharmacy, Institutes of Medicine, Principles and Practice of Surgery, Midwifery and Diseases of Women and Children, Theory and Practice of Medicine, Practical Anatomy, Clinical Medicine, Clinical Surgery—each two six-months' courses; Medical Jurisprudence—one course of six months or two courses of three months; Practical Chemistry, Botany or Zoology, Hygiene—each one three-months' course duration; not less than twenty-five Demonstrations upon Microscopic Anatomy, Physiology, and Pathology. Testimonials equivalent to, though not precisely the same as those above stated, may be presented and accepted. The candidate must have attended during eighteen months the practice of the Montreal General Hospital, or that of some other approved Hospital, and have compounded medicines for six months. He must also have attended for at least six months the practice of the University or other approved Lying-in Hospital, and have attended at least six Accouchements.

Every candidate for examination must have attended at least one session at this University, and one full course of all the branches included in its curriculum.

The examinations at the close of each session are arranged as follows: *First Year*.—Elementary Anatomy and Physiology; Chemistry (Chemical Physics and Chemical Philosophy); Materia Medica; Practical Anatomy; Botany. *Second Year*.—Primary Pass Examination—Anatomy; Practical Anatomy; Physiology; Chemistry; Practical Chemistry; Materia Medica. *Third Year*.—Sessional Examination—Medical Jurisprudence, with Toxicology; Hygiene; * Medicine; Surgery; Midwifery. *Fourth Year*.—Final Pass Examination—Medicine, Surgery, Midwifery, Clinical Medicine, Clinical Surgery, Medical Anatomy, Surgical Anatomy.

The Sessional Examinations at the close of the first and third years are compulsory. At the Primary Examination at the end of the second year, the student may leave two branches for the third year; in any case, Chemistry and one other must be taken at the end of the second year.

Fees.—These are: Matriculation, 5 dollars; Registration each session, 4 dollars; Degree, 20 dollars; Registration of Degree, 1 dollar.

BISHOP'S COLLEGE UNIVERSITY FACULTY OF MEDICINE, MONTREAL.

THIS University confers the degrees of Doctor of Medicine and Master of Surgery. The degree of Mas-

* May be taken at the end of the second year.

ter of Surgery (C.M.) is not conferred on any person who does not at the same time obtain the degree of Doctor of Medicine (M.D.) Each student must undergo, prior to the commencement of his medical studies, a Preliminary Examination upon the following subjects: English, French, Latin, Arithmetic, Algebra, Geometry, History, Belles-Lettres, and one of the following optional subjects: Greek, Natural and Moral Philosophy. Candidates for degrees must have been engaged uninterruptedly for four years in medical and surgical study; but a certificate of having studied one full year with a duly licensed practitioner reduces the period of study at the University to three sessions. Students must matriculate afresh at the commencement of every session, on or before the 1st of December. Every candidate for graduation must give sufficient evidence by certificates: 1. That he has attended two six months' courses of lectures on each of the following subjects: (a) General or Descriptive Anatomy, Principles and Practice of Surgery, Theory and Practice of Medicine, Midwifery and Diseases of Women and Children, Chemistry, Materia Medica and Therapeutics, and Physiology; (b) One six months' course or two three months' courses of Medical Jurisprudence, one six months' course of Pathology, one three months' course of Botany, of Hygiene, and also of Practical Chemistry and Microscopy, and also a course of not less than twenty-five demonstrations upon Microscopic Anatomy, Physiology and Pathology; (c) Not less than two six months' courses of Clinical Medicine and Clinical Surgery; (d) Two six months' courses of Practical Anatomy; (e) That he has attended for at least eighteen months, or three periods of six months each, the medical and surgical practice of a Hospital, in which are contained not less than fifty beds, under the charge of not less than two physicians or surgeons, and that he has been engaged for at least six months in compounding and dispensing medicines. That he has attended at least six cases of Midwifery.

Of the four years of medical and surgical study, one full course on each branch mentioned in sections *a* and *b* must be attended in this University.

Every candidate for the degree must, on or before the 1st day of March, deliver to the Dean of the Medical Faculty, a declaration, in his own handwriting, that he has completed his twenty-first year of age (or that he will have done so before the day of graduation); and a statement of his studies, accompanied with proper certificates.

Every candidate is examined both in writing and *visu voce*. The Examinations are divided into Primary and Final. The Primary examination comprehends Anatomy, Chemistry, Practical Chemistry, Materia Medica, Physiology, and Botany or Zoology. The Final Examination includes Practice of Medicine, Clinical Medicine, Surgery, Clinical Surgery, Midwifery and the Diseases of Women and Children, Medical Jurisprudence, Pathology, and Hygiene.

Candidates may be admitted to examination on the Primary branches at the end of the third year of their study. The Final Examination does not take place until the candidate has completed his fourth year.

COLLEGE OF PHYSICIANS AND SURGEONS OF ONTARIO.

ALL persons, whatever qualifications they may possess, must be examined by this College in order to

obtain a licence to practice in the province of Ontario.

Candidates for the membership of this College must spend four years (forty-eight months) in professional studies after having passed a matriculation examination in the English Language, Arithmetic, Algebra (including Simple Equations), Geometry (first two books of Euclid), Latin (Translation and Grammar), and either Greek, French, German, or Natural Philosophy (including Mechanics, Hydrostatics, and Pneumatics). Graduates in Arts, or students who have matriculated in Arts in any University in the British dominions, are not required to pass the Matriculation Examination; and Graduates in Arts may pass the final examination at the end of three years.

Every candidate must have attended, in an University, college, or school of medicine, two courses of six months each, in Anatomy, Practical Anatomy, Physiology (including Histology), Theoretical Chemistry, Materia Medica and Therapeutics, Medicine, Surgery, Midwifery and Diseases of Women and Children, Clinical Medicine and Clinical Surgery; one course of six months, or two courses of three months each, on Medical Jurisprudence; one course of three months in Practical Chemistry and on Botany; one course of not less than twenty-five demonstrations on Histology, Physiology, and Pathology; and one course of twenty-five lectures on Sanitary Science.

The Professional Examination is divided into primary and final. The Primary Examination, at the end of the second winter session, comprises Descriptive Anatomy, Physiology and Histology, Theoretical and Practical Chemistry, Toxicology, Sanitary Science, and Botany. (Graduates in Arts who have attended one course of lectures on Botany, and two on Theoretical Chemistry, and have passed an examination in these subjects, are not subjected to further examination thereon). The Final Examination comprises Medical and Surgical Anatomy, Theory and Practice of Medicine and Medical Pathology, Surgery and Operative Surgery, Midwifery and Diseases of Women and Children, Operative Midwifery, Medical Jurisprudence, and Materia Medica and Therapeutics.

Before being admitted to the Final Examination, the candidate must have spent six months in the office of a regularly qualified medical practitioner, in dispensing medicine; have attended the practice of a general hospital for twenty-five months; have attended six courses of midwifery; and have attained the age of twenty-one years.

The Primary Examination is entirely oral; the Final is entirely written. Any candidate who fails in any one branch at the Primary Examination is held to have failed in all. Any candidate who passes in four or more branches at the Final Examination, but fails in the others, is required to pass in the latter only at a subsequent examination. Persons intending to practise Homœopathy are, on application, examined by Homœopathic Examiners.

Persons from recognised colleges outside the provinces of Ontario and Quebec must pass the matriculation examination, and afterwards attend one full winter course of lectures during two winter sessions in some one of the Ontario Medical Schools, and such other course or courses as may be necessary to complete the required curriculum; and must pass all the examinations.

The Fees are: Matriculation Examination, 10 dollars; Registration, for students not examined by the College Examiners, 10 dollars; Primary Examination,

tion, 20 dollars; Final Examination, including Registration, 30 dollars; Diploma of Membership, 10 dollars; annual contribution from members of the college, 1 dollar. No portion of the examination fees is returned to unsuccessful candidates.

COLLEGE OF PHYSICIANS AND SURGEONS OF QUEBEC.

EVERY medical student of the province of Quebec, before beginning his professional studies, must pass a satisfactory examination upon the following subjects: English and French, Latin, Geography, History, Arithmetic, Algebra, Geometry, and Belles-Lettres, and upon any one of the following subjects: Greek, Natural and Moral Philosophy. He must also present a certificate of a good moral character.

The examination is oral and written; and the oral part of the examination is conducted jointly by two examiners, one speaking French and the other English.

The Board may recognise an equivalent preliminary examination before any authorised College or Licensing Board in Her Majesty's Dominion, provided that the same privilege is accorded to the students of this province.

Every medical student must pursue his professional studies during not less than four years from the time of his having passed the Preliminary Examination. Of the four years, three six months' sessions at least must be passed in attendance upon lectures at an University, College, or incorporated School of Medicine recognised by this Board, the first whereof shall be so passed the year immediately succeeding the Preliminary Examination. Every student must pursue the following curriculum of study: General or Descriptive Anatomy, Practical Anatomy, Surgery, Practice of Medicine, Midwifery, Chemistry, Materia Medica and General Therapeutics, the Institutes of Medicine or Physiology, and General Pathology, Clinical Medicine, Clinical Surgery, two six months' courses of each; Medical Jurisprudence, a course of six months, or two courses of three months; Botany and Hygiene, a three months' course of each; and a course of not less than twenty-five demonstrations upon Microscopic Anatomy, Physiology, and Pathology. He must attend the general practice of an Hospital containing not less than fifty beds, under the charge of not less than two physicians or surgeons, for not less than eighteen months, or for three periods of not less than six months each. He must attend six cases of labour, and compound medicine for six months. Each six months' course must consist of 120 lectures, except those of Clinical Medicine, of Clinical Surgery, and of Medical Jurisprudence.

The total duration of the examination is one hour and forty-five minutes.

Before examination the candidate must deposit the required fee, and produce satisfactory evidence that he has attained the full age of twenty-one years, and that he has complied with the rules and regulations of the Board.

Fees.—These are: Preliminary or Matriculation Examination, 10 dollars; Diploma or Licence to Practise, 20 dollars; annual subscription, 2 dollars; registration of additional degrees or titles, 1 dollar. If a candidate for the Licence or for the Preliminary Examination be rejected, he forfeits half the fees.

TORONTO UNIVERSITY FACULTY OF MEDICINE.

THE Degree of Bachelor of Medicine may be obtained, either (1) by taking a Pass Course, or (2) by taking an Honour Course.

Candidates, to enter this faculty, must pass the Matriculation Examination unless (1) they possess a Degree in Arts, not being an Honorary Degree, from any Dominion or British University, or (2) they have already matriculated in the Faculty of Arts, or in the Faculty of Law in this University. Before presenting themselves for the Matriculation Examination, candidates must produce satisfactory certificates of good conduct, and of having completed the sixteenth year of their age. The Matriculation Examination (both Pass and Honours) commences in the latter part of June, and Supplemental Examinations (Pass alone) are held in the latter part of September. Candidates on giving notice of intention to present themselves at the Matriculation Examination must signify whether they purpose taking the Pass or the Honour Examination. Scholarships are only awarded in connection with the latter. The following groups of subjects must be passed by every Matriculant: 1. Three out of four languages, Latin, Greek, French, and German, one of which must be Latin; 2. Mathematics, including Arithmetic, Algebra to the end of Quadratics, and the first three books of Euclid; 3. English Grammar and Composition, with the Outlines of History and of Modern Geography, and an exercise in Writing to Dictation. Extra Honour papers are set in all the above-mentioned subjects, and special attention is paid to translation from English into the languages. A paper on Chemistry is set for such honour students as may enter for the same. Those candidates are placed in the first class of honours who obtain two-thirds or more of the aggregate number of marks; those who obtain one-half of the aggregate number in the second class. Two Matriculation Scholarships are awarded to the two highest candidates, provided that they have obtained at least sixty per cent. of the aggregate number of marks, exclusive of those allotted to Chemistry. Undergraduates must attend lectures and receive practical instruction, during four years, at a recognised School of Medicine. Each undergraduate, at the end of each of the four years, must present himself at the Annual Examination. These examinations are styled the first, second, third, and fourth Professional Examinations, and are to be passed by all candidates for the Degree. If a candidate be prevented by sickness, or other unavoidable cause, from attending at one of the Professional Examinations, he may take that examination together with the next following. If a candidate be rejected in one subject only, having shown fair proficiency in the others, he may take that subject along with the work of the next Professional Examination. If a candidate for the First Professional Examination fail to pass in two subjects, the Board of Examiners may recommend that the subjects passed be allowed, and that he shall take the others with the Second Professional Examination. Graduates in Arts of this University, with honours in the department of Natural Sciences, are exempted from the First Professional Examination, and from the fee for the same. They must, however, take Anatomy along with the Second Professional Examination. No candidate can pass a Professional Examination who has not obtained at least one-half of the marks required; nor is a candi-

date considered as having passed any subject who has not obtained at least one-third of the marks allotted to it. Every undergraduate who proposes to present himself at a Professional Examination must send in to the Registrar a statement (according to a printed form furnished) of the course he is taking, whether Pass or Honour, of the lectures attended, and of the practical instruction received, with the names of the Teachers, and such other particulars as the printed form may indicate, together with the original certificates referred to in the statement.

The following are the certificates required for the different examinations, and the subjects of examination.

First Professional Examination: Certificates are required: 1. Of Matriculation; 2. Of having attended a course of lectures on each of the following subjects:—Anatomy, at least 100 lectures; Inorganic Chemistry, at least 60 lectures; Natural Philosophy, at least 20 lectures; *Botany, at least 40 lectures; *Zoology, at least 40 lectures. Of the above lectures marked *, at least one-third must be of the nature of practical lessons, involving laboratory practice. 3. Of practical instruction in Anatomy during six months. The subjects of examination are: 1. Anatomy of the Bones, Muscles, and Ligaments, and of the Viscera of the Abdomen and Thorax; 2. Elements of Inorganic Chemistry; 3. Elements of Natural Philosophy, Electricity, Heat, and Light; 4. Elements of Botany, including the characters and properties of the following Natural Orders: Ranunculaceæ, Papaveraceæ, Cruciferae, Caryophyllaceæ, Malvaceæ, Leguminosæ, Rosaceæ, Saxifragaceæ, Onagraceæ, Umbelliferae, Rubiaceæ, Compositæ, Ericaceæ, Primulaceæ, Scrophulariaceæ, Labiate, Solanaceæ, Polygonaceæ, Euphorbiaceæ, Urticaceæ, Amettaceæ, Orchidaceæ, Liliaceæ, Palmæ, Cyperaceæ, Gramineæ. An acquaintance with the noxious and medicinal plants of the Canadian Flora is expected; 5. Elements of Zoology; and, for candidates for honours, Comparative Anatomy of Vertebrata, and Practical Examination in Natural Philosophy.

Second Professional Examination.—Candidates must produce certificates: 1. Of having attended lectures on Anatomy (second course of 100 lectures); Physiology, Materia Medica and Therapeutics, each at least 100 lectures; Organic Chemistry, at least 40 lectures; 2. Of Practical Instruction in Anatomy, (a second course of six months); Histology and Physiological Chemistry, each during at least three months; 3. Of having dissected the human body once; 4. Of being skilled in Compounding and Dispensing Drugs. (This certificate may be from a registered practitioner, the apothecary of a public hospital, or of a Public Dispensary, or from a member of the Pharmaceutical Societies of Ontario or Quebec). The subjects of examination are: 1. Elements of Organic Chemistry; 2. Anatomy; 3. Physiology; 4. Materia Medica and Therapeutics; and (for honours) Physiology of Muscle, Nerve, Circulation, etc.

Third Professional Examination.—The candidates must produce evidence: 1. Of having attended lectures on Practice of Medicine, Surgery, Obstetrics, etc.; Clinical Surgery and Medicine, during courses of 100 lectures each; General Pathology, at least 50 lectures; 2. Of having dissected the human body a second time; 3. Of Practical Instruction in Pathological Histology during at least three months. The subjects of this examination are: 1. Practice of Medi-

cine; 2. Surgery and Surgical Anatomy; 3. General Pathology, including Morbid Anatomy and the mode of conducting Necropsies; 4. Obstetrics and Diseases of Women and Children; 5. Clinical Medicine and Surgery.

Fourth Professional Examination.—Certificates are required: 1. Of having attended lectures on:—Clinical Medicine and Surgery, a further course of 100 lectures; Forensic Medicine, 50 lectures; Hygiene, 25 lectures; Medical Psychology, 12 lectures; 2. Of Practical Instruction in Chemistry in its application to Hygiene and Forensic Medicine; 3. Of having attended at least six clinics in a Public Lunatic Asylum; 4. Of having conducted at least six Labours; 5. Of proficiency in Vaccination (certificate received from any registered Practitioner); 6. Of attendance in the wards of a Public Hospital accommodating not less than 100 beds during eighteen months; 7. Of attendance for six months on the out practice of a Hospital, Dispensary, or registered Practitioner; 8. Of having attended twelve necropsies. The subjects of examination are: 1. Practice of Medicine; 2. Surgery; 3. Forensic Medicine; 4. Hygiene; 5. Medical Psychology; 6. Clinical Medicine and Surgery; 7. Practical Chemistry in its application to Forensic Medicine and Hygiene.

In all the Professional Examinations special importance is attached to the practical part.

Candidates for Honours are entitled to First Class Honours in any of the Professional Examinations if they obtain 75 per cent. of the aggregate marks; those who obtain 66 per cent. will be entitled to Second Class Honours. Extra papers on all the Pass Subjects will be set for Honour candidates, as well as papers on certain subjects, as indicated above. Candidates proceeding to the Degree of M.B. by taking the Honour Course are grouped in two classes. Those receive the Degree with First Class Honours who have been placed in the Honour List in all of the four Professional Examinations, and have obtained First Class Honours in at least three out of the four. Those receive their Degree with Second Class Honours who have been placed in the Honour List in three out of the four Professional Examinations, and have obtained First Class Honours in at least one examination. Candidates for the Degree of M.B. who are also Graduates in Arts of the University with Honours in the Department of Natural Science, are considered as having passed their First Professional Examination with First Class Honours.

Degree of M.D.—Candidates for the Degree of M.D. must be of one year's standing from admission to the Degree of M.B., and have composed an approved thesis upon some medical subject.

Fees.—The fees are: Matriculation, 5 dollars; Registration of exemption from this examination for Graduates in Arts from other Universities, 5 dollars; for Matriculants from other Faculties in the University, 3 dollars; for Graduates in Arts of this University, 2 dollars. No fee is exacted from Graduates in Arts of this University who have taken honours in Natural Science. For each Professional Examination, 2 dollars; a rejected candidate may present himself at the same examination in the following year on payment of 1 dollar. Degree of M.B., 6 dollars; Degree of M.D., 8 dollars; admission *ad eundem gradum*, 10 dollars.

TEXT-BOOKS.

THE object of the subjoined notes is to inform the student in general terms of the works which he may use as text-books. The list is not intended to be exclusive; nor is it our purpose to say always which book is the best in any subject. Some students learn best from one book; others from another. Again, some books are more adapted than others to the teaching of the school to which the pupil belongs. In addition to the ordinary text-books, reference will be made to some which, though not absolutely necessary to the student, may be studied with advantage.

ANATOMY AND PHYSIOLOGY.

Among the indispensable text-books must be mentioned in the first place Quain's *Elements of Anatomy* (Longmans and Co.), edited by Drs. Sharpey and Allen Thomson, and Mr. Schäfer. Gray's *Anatomy* (Longmans) has been edited by Mr. Holmes; and among the improvements in the last edition are copies of drawings by Dr. Klein. A new edition of Wilson's *Anatomist's Vade-Mecum*, by Dr. G. Buchanan and Mr. H. E. Clark of Glasgow, has been published by Messrs. J. and A. Churchill. Braune's *Atlas of Topographical Anatomy*, translated and edited by Mr. Bellamy (J. and A. Churchill), is a valuable book for reference. The drawings are made from plane sections of foreign bodies. There is also Bock's *Atlas of Human Anatomy* (Renshaw); and Messrs. J. and A. Churchill are publishing, in parts, a valuable *Atlas of Human Anatomy*, by Mr. Godlee. The same firm have published a second edition of Mr. Flower's *Diagrams of the Nerves of the Human Body*. There are also the well-known Quain and Wilson's *Anatomical Plates* (Smith, Elder, and Co.) For use in the dissecting-room, Ellis's *Demonstrations of Anatomy*, (eighth edition, Smith, Elder, and Co.), has long established its claim as a trustworthy guide. It contains reduced copies of plates in the author's *Illustrations of Dissections*—a work which from its price the student can scarcely be expected to purchase, but which he should not fail to consult for assistance. Another good book for dissectors is Mr. Christopher Heath's *Practical Anatomy* (fourth edition, J. and A. Churchill). Dr. Cleland of Glasgow has also brought out a concise and accurate *Directory for the Dissection of the Human Body* (Smith, Elder, and Co.); and a *Dissector's Guide*, with illustrations, by Dr. D. J. Cunningham, is published by MacLachlan and Stewart of Edinburgh. Messrs. Hensman and Fisher's *Anatomical Outlines for the Use of Students in the Dissecting-room and Surgical Class-room* (Longmans and Co.) are useful. Mr. Thomas Cooke's *Tablets of Anatomy and Physiology* (new edition) contain much information in a condensed form, and give useful aid in the study of the larger works. For students of Osteology, Mr. Wagstaffe has prepared the *Student's Guide to Human Osteology* (J. and A. Churchill); Holden's *Human Osteology* (fifth edition, J. and A. Churchill), is a standard work on the subject; and there is also Mr. Norton's *Osteology for Students* (Baillière, Tindal, and Cox). Mr. Henry Morris's *Anatomy of the Joints of Man* (J. and A. Churchill) is an instructive work. Mr. St. George Mivart's *Elementary Lessons in Anatomy* is a book in which the interest of the subject is increased by a demonstration of the chief relations of the structure of man

to other animals. To students who feel an interest in the study of Zoology and Comparative Anatomy, we could recommend, as works that will give much information without being too large or costly, Mr. Flower's *Osteology of the Mammalia* (Macmillan and Co.), and Dr. H. A. Nicholson's *Manual of Zoology and Advanced Text-Book of Zoology*; as well as Huxley's *Manuals of the Anatomy of Vertebrated and Invertebrated Animals* (J. and A. Churchill), and Huxley and Martin's *Practical Biology*. Professor Gegenbaur's *Elements of Comparative Anatomy*, Translated by Mr. F. J. Bell (Macmillan and Co.) is a larger work. For the study of Embryology, the chapter by Dr. Allen Thomson in Quain's *Anatomy*, or the *Elements of Embryology*, by Dr. M. Foster and Mr. Balfour (Macmillan and Co.), should be consulted.

For instruction in Histology, Mr. Schäfer's *Course of Practical Histology* (Smith, Elder, and Co.), and Dr. Rutherford's *Outlines of Practical Histology for Students and Others* (second edition, Churchill), are excellent guides; as is also the chapter on General Anatomy in Quain's *Anatomy*. The *Atlas of Histology*, by Dr. E. Klein and Mr. Noble Smith (Smith, Elder, and Co.), is a valuable work. Professor Stricker's collection of essays on *Human and Comparative Histology* (New Sydenham Society) is a valuable work of reference; as is also Heinrich Frey's *Histology and Histo-Chemistry of Man*, translated by Mr. Barker (J. and A. Churchill).

In Physiology, the student will find any of the following to be trustworthy guides: Dr. M. Foster's *Text-Book of Physiology* (Macmillan and Co.); Dr. McKendrick's *Outlines of Physiology in Relation to Man* (Maclehose, Glasgow; Macmillan and Co.; and Fannin and Co. Dublin); Dr. L. Hermann's *Elements of Physiology*, translated by Professor Gamgee (second edition, Smith, Elder, and Co.); Huxley's *Lessons in Elementary Physiology* (new edition, Macmillan and Co.); and Flint's *Text-Book of Human Physiology* (H. K. Lewis). The well known Kirkes's *Handbook of Physiology* has been re-edited, with improvements, by Mr. Morratt Baker (J. and A. Churchill); and Dr. Carpenter's *Principles of Human Physiology*, by Mr. Power (eighth edition, J. and A. Churchill). Dr. Burdon Sanderson has issued a *Syllabus of a Course of Lectures on Physiology* (second edition, H. K. Lewis). The increased study in recent years of Practical Physiology has led to the publication of several guides to this department. An *Elementary Course of Practical Physiology* by Dr. M. Foster and Mr. Langley (Macmillan and Co.) is a book that can be recommended to beginners; while the more elaborate *Handbook for the Physiological Laboratory*, by Drs. Sanderson, Klein, Foster, and Brunton (Churchill), is more fitted for those who desire an extended knowledge of practical physiology.

As guides in the use of the Microscope, there are Dr. Beale's *Microscope in Medicine*, Dr. Carpenter on the *Microscope* (fifth edition, J. and A. Churchill), Wythe's *Microscopist's Manual* (third edition Churchill), Marsh's *Section-Cutting*, (Churchill), and Martin's *Manual of Microscopic Mounting* (second edition, Churchill).

CHEMISTRY.

In Chemistry, among the most approved text-books, are Fownes' *Manual of Chemistry*, edited in two volumes, Inorganic and Organic, by Mr. Watts (twelfth edition, J. and A. Churchill); Ros-

coe's *Lessons in Elementary Chemistry*; Miller's *Elements of Chemistry* (Longmans and Co.); and Williamson's *Chemistry for Students* (Macmillan and Co.) A little book by Mr. R. M. Murray, entitled *Chemical Notes and Equations for the use of Students* (MacLachlan and Stewart), gives an useful outline of the fundamental principles of chemical science. An elaborate *Treatise in Chemistry*, by Professors Roscoe and Schorlemmer, of Owens College, Manchester, is in course of publication by Macmillan and Co. Bowman's *Practical Chemistry*, seventh edition, by Mr. Bloxam, has an established reputation as a practical guide.

For instruction in Physiological Chemistry, there are Dr. Ralfe's *Outlines of Physiological Chemistry* (H. K. Lewis), and Mr. S. W. Moore's *Notes of Demonstrations in Physiological Chemistry* (Smith, Elder, and Co.)

BOTANY.

The text-books of Botany in most general use are Bentley's *Manual of Botany* (third edition, J. and A. Churchill); Hensley's *Elementary Course of Botany*, third edition, by Dr. M. T. Masters (Van Voorst); Balfour's *Manual of Botany* (A. and C. Black); Oliver's *Lessons in Elementary Botany*; Prantl and Vines' *Text-book of Botany*; Sachs' *Text-book of Botany*, translated by Mr. A. W. Bennett and Mr. W. T. Dyer (Macmillan and Co.), is a valuable work of reference in regard to Structural and Physiological Botany. Bentley and Trimen's admirable plates of *Medicinal Plants* (J. and A. Churchill) should be consulted by the student both of Botany and of Materia Medica.

MEDICINE.

For the student who is commencing his clinical studies there are several very good guide-books. Among them are Dr. A. W. Barclay's *Manual of Medical Diagnosis* (third edition, J. and A. Churchill), Dr. S. Fenwick's *Student's Guide to Medical Diagnosis* (fourth edition, J. and A. Churchill); Dr. O. Sturges' *Introduction to the Study of Clinical Medicine* (Smith, Elder, and Co.); and Dr. Finlayson's *Clinical Manual for the Study of Medical Cases* (Smith, Elder, and Co.) More advanced students and practitioners may consult with advantage Dr. Da Costa's *Medical Diagnosis* (third edition, Smith, Elder, and Co.) As a guide in physical diagnosis, Dr. Gee's *Auscultation and Percussion* (Smith, Elder, and Co.), may be safely trusted. Other useful books for the same purpose are Flint's *Manual of Percussion and Auscultation* (J. and A. Churchill); and Dr. Reginald Thompson's *Physical Examination of the Chest in Health and Disease* (H. Renshaw).

Among text-books in General Medicine, which may be recommended for the use of the student, are *Dr. F. T. Roberts's *Handbook of the Theory and Practice of Medicine* (fourth edition, H. K. Lewis), Dr. J. S. Bristowe's *Treatise on the Theory and Practice of Medicine* (second edition, Smith, Elder, and Co.), (Dr. Tanner's *Practice of Medicine* (edited by Dr. Broadbent), Dr. Aitken's *Outlines of the Science and Practice of Medicine* (C. Griffin and Co.), Dr. Barlow's *Manual of the Practice of Medicine* (second edition, J. and A. Churchill), Dr. H. Hartshorne's *Essentials of the Principles and Practice of Medicine* (Smith, Elder, and Co.), and Dr. Charteris's *Student's Guide to the Practice of Medicine* (second edition,

J. and A. Churchill). The advanced student and the practitioner will do well to consult Dr. Russell Reynolds' *System of Medicine* (five volumes, Macmillan and Co.), Trousseau's *Lectures on Clinical Medicine* (New Sydenham Society); Ziemssen's *Cyclopaedia of the Practice of Medicine* (Sampson Low and Co.); Dr. Niemeyer's *Text-Book of Practical Medicine* (H. K. Lewis); Sir Thomas Watson's *Lectures on the Principles and Practice of Physic* (Longmans and Co.); and Dr. Aitken's *Science and Practice of Medicine* (C. Griffin and Co.).

SURGERY.

Mr. Erichsen's *Science and Art of Surgery* (seventh edition, Longmans and Co.), Mr. Holmes's *Surgery—its Principles and Practice* (second edition, Smith, Elder, and Co.), Mr. Bryant's *Practice of Surgery* (third edition, J. and A. Churchill), and Mr. Gant's *Science and Practice of Surgery* (second edition, Baillière, Tindal, and Cox), are all very complete works, one of which should be in the possession of the student. For those who prefer smaller and more condensed works, there is the well known Druitt's *Surgeon's Pade-Mecum* (eleventh edition, Churchill). Mr. Christopher Heath has brought out a *Student's Guide to Surgical Diagnosis* (J. and A. Churchill). Among the works more specially devoted to Practical Surgery, the late Sir William Ferguson's excellent *System of Practical Surgery* (fifth edition, J. and A. Churchill), holds the foremost place. Among other books which may be consulted with advantage are, Mr. Holmes's *System of Surgery* (Longmans and Co.), Mr. Spence's *Lectures on Surgery* (A. and C. Black), Dr. S. D. Gross's *System of Surgery* (fifth edition, Smith, Elder, and Co.), and Billroth's *Lectures on Surgical Pathology and Therapeutics* (New Sydenham Society).

For the guidance of the student who is being instructed in practical and operative surgery, there are several good books. Mr. Christopher Heath's *Manual of Minor Surgery and Bandaging* (fifth edition, Churchill) has for several years enjoyed a high reputation as a trustworthy guide. The *Manual of Operative Surgery on the Dead Body*, by Mr. Thomas Smith and Mr. Walsham (Longmans and Co.); Mr. Berkeley Hill's *Essentials of Bandaging* (Smith, Elder, and Co.); Mr. Bellamy's *Student's Guide to Surgical Anatomy* (J. and A. Churchill); Mr. Maunders' *Operative Surgery* (second edition, J. and A. Churchill); Mr. Joseph Bell's *Manual of the Operations of Surgery* (fourth edition, MacLachlan and Stewart); and Stimson's *Operative Surgery* (Lewis), are also works which can be recommended. Other larger works, most valuable for reference—and to be procured by the student if possible—are Mr. Jonathan Hutchinson's *Illustrations of Clinical Surgery*, consisting of plates, woodcuts, etc., illustrating surgical diseases, symptoms, accidents, operations, etc. (published in fasciculi by J. and A. Churchill); Mr. C. Heath's *Course of Operative Surgery*, with coloured plates (J. and A. Churchill); and Mr. Norton's edition of Bernard and Huette's *Text-Book of Operative Surgery* (Baillière, Tindal, and Cox). For the student of Military Surgery, Surgeon-General Longmore's work on *Gunshot Injuries* (Longmans and Co.), and Surgeon-Major Porter's *Surgeon's Pocket-Book*, are essential. A translation, by Dr. Clutton, of Professor Esmarch's *Surgeon's Handbook on the Treatment of Wounded in War*, is also of value.

MIDWIFERY; AND DISEASES OF WOMEN AND CHILDREN.

The text-books of Obstetric Medicine which hold the first place in the present day are, Dr. W. S. Playfair's *Treatise on the Science and Practice of Midwifery* (second edition, Smith, Elder, and Co.); and Dr. Leishman's *System of Midwifery* (second edition, J. Maclehose, Glasgow). Every student should have one or the other of these. For those who prefer smaller books, Dr. D. Lloyd Roberts's *Student's Guide to the Practice of Midwifery* (second edition, J. and A. Churchill) will be useful; there are also Dr. Alfred Meadows's *Manual of Midwifery* (Renshaw) and Dr. C. H. Carter's translation of Karl Schröder's *Manual of Midwifery* (J. and A. Churchill). As a work of illustrations, Dr. Martin's *Atlas of Obstetrics and Gynecology*, edited by Dr. Fancourt Barnes, is to be recommended. Dr. J. G. Swayne's *Obstetric Aphorisms* (sixth edition, J. and A. Churchill), Dr. Clay's *Complete Handbook of Obstetric Surgery* (J. and A. Churchill), and Dr. Heywood Smith's *Practical Gynecology* (J. and A. Churchill) are very useful. Dr. Barnes's *Lectures on Obstetric Operations* (third edition, J. and A. Churchill) is a book which should be in the possession of every advanced student and general practitioner; as should also the *Clinical History of the Medical and Surgical Diseases of Women*, by the same author (second edition, Churchill). Dr. West's *Lectures on the Diseases of Women* (fourth edition, with additions by Dr. Matthews Duncan, J. and A. Churchill); Dr. Graily Hewitt's *Diagnosis and Treatment of Diseases of Women* (third edition, Longmans and Co.); the late Dr. F. Churchill's work on the *Diseases of Women* (sixth edition, Fannin and Co.); Mr. Lawson Tait's *Diseases of Women* (Williams and Norgate); Dr. Emmet's *Principles and Practice of Gynecology* (J. and A. Churchill); Dr. Gaillard Thomas's *Practical Treatise on the Diseases of Women*, and Mr. Spencer Wells's treatise on *Diseases of the Ovaries* (J. and A. Churchill), are all valuable books. A *Student's Guide to Diseases of Women*, by Dr. Galabin (J. and A. Churchill) has lately appeared; and Dr. Halliday Croom has brought out a work on *Minor Gynecological Operations and Appliances* (Livingstone, Edinburgh; and Simpkin, Marshall and Co.).

Among text-books on Diseases of Children, must be mentioned Dr. West's well known *Lectures on the Diseases of Infancy and Childhood* (Longmans and Co.); Dr. Fleetwood Churchill's treatise on *The Diseases of Children* (Fannin and Co.); M. Guerant's *Surgical Diseases of Infants and Children*, translated by Dr. Dunglison (Smith, Elder, and Co.); Meigs and Pepper's *Practical Treatise on Diseases of Children* (H. K. Lewis); Dr. Eustace Smith's *Clinical Studies of Disease in Children* (J. and A. Churchill); Dr. J. L. Smith's *Treatise on the Diseases of Infancy and Childhood* (fourth edition, H. K. Lewis); Dr. Tanner and Dr. Meadows' *Practical Treatise on Diseases of Infancy and Childhood* (third edition, H. Renshaw); and Steiner's *Compendium of the Diseases of Children*, translated by Mr. Lawson Tait (J. and A. Churchill).

PATHOLOGY.

An English translation of Virchow's treatise on *Post Mortem Examinations: the Art of Making them*, has been published by J. and A. Churchill. Messrs. Smith, Elder, and Co. have published a

Manual of Necroscopy, by Dr. A. H. Newth, which is intended as a guide to the performance of *post mortem* examinations. Dr. R. J. Lee has brought out a little book entitled *Pathological Anatomy: a Guide in the Post Mortem Room* (Richards, Great Queen Street). It is intended as an introduction to other works on the subject. As a manual of pathology, Dr. T. H. Green's *Introduction to Pathology and Morbid Anatomy* (Renshaw) has gained a deservedly high reputation. The *Lectures on Pathological Anatomy* of Drs. Wilks and Moxon (second edition, J. and A. Churchill), and Dr. J. F. Payne's improved edition of Jones and Sieveking's *Manual of Pathological Anatomy* (J. and A. Churchill), are also good books. We would also strongly recommend students to consult, and to possess, if possible, Rindfleisch's *Manual of Pathological Histology*, edited by the New Sydenham Society.

SPECIAL SUBJECTS.

There are several good text-books of the special departments which are taught in the schools.—For students of Ophthalmic Surgery, Mr. Soelberg Wells's *Treatise on Diseases of the Eye* (third edition, J. and A. Churchill); Mr. K. B. Carter's *Treatise on Diseases of the Eye* (Macmillan and Co.); Mr. Nettleship's *Student's Guide to Diseases of the Eye* (J. and A. Churchill); Mr. Macnamara's *Manual of Diseases of the Eye* (third edition, J. and A. Churchill); Mr. George Lawson's *Diseases and Injuries of the Eye* (Renshaw); Mr. B. T. Lowne's *Handbook of Ophthalmic Surgery* (Smith, Elder, and Co.), are books that will be useful. Messrs. Churchill have also published the second edition of a little book by Mr. Charles Higgins, entitled *Hints on Ophthalmic Out-patient Practice*. Dr. de Wecker's *Ocular Therapeutics*, translated by Dr. Litton Forbes, may be consulted with advantage. Mr. E. A. Brown, of the Liverpool Eye and Ear Infirmary, has brought out a little book for instructing students *How to Use the Ophthalmoscope* (Trübner and Co.); and a valuable *Manual and Atlas of Medical Ophthalmoscopy* by Dr. Gowers (J. and A. Churchill) has lately been published.—In Aural Surgery, Mr. Dalby's book on *Diseases and Injuries of the Ear* is very good; there is also a book by Mr. G. P. Field on *Diseases of the Ear* (second edition, Renshaw); while Dr. Burnett's work on *The Ear: its Anatomy, Physiology, and Diseases*, and Dr. St. John Roosa's *Practical Treatise on Diseases of the Ear* (fourth edition, H. K. Lewis) are valuable and elaborate works. Dr. Macnaughton Jones has brought out a good *Practical Treatise on Aural Surgery*, and also a well-executed *Atlas of the Diseases of the Membrana Tympani and Auricle* (J. and A. Churchill).—For the use of students in Dermatology, there is the late Dr. Tilbury Fox's treatise on *Skin-Diseases, their Description, Pathology, Diagnosis, and Treatment* (new edition, H. Renshaw). Mr. Malcolm Morris's *Manual of Skin-Diseases* is a very reliable guide. Mr. Erasmus Wilson's *Treatise on Diseases of the Skin*, and his *Lectures on Dermatology* (J. and A. Churchill) are well known and valuable works. Dr. Pullar has translated the *Text-Book of Skin-Diseases*, by Dr. Neumann of Vienna (Hardwicke and Bogue). Dr. R. Liveing's *Handbook on the Diagnosis of Skin-Diseases*, and his *Notes on the Treatment of Skin-Diseases* (fourth edition, Longmans and Co.), are well deserving of recommendation as works full of practical instruction. Dr. Tilbury Fox has supplied an excellent *Atlas of Skin-*

Diseases (Renshaw); while a work with a similar title by Dr. Duhring of Philadelphia (Lippincott and Co.) is also very good.—For students of Dental Surgery, the following books are published by Messrs. J. and A. Churchill: Tomes's *Manual of Dental Surgery* (second edition); Tomes's *Manual of Dental Anatomy*; Sewill's *Student's Guide to Dental Anatomy and Surgery*; Smith's *Handbook of Dental Anatomy and Surgery* (second edition); Stocken's *Elements of Dental Materia Medica and Therapeutics* (second edition); and Coles's *Manual of Dental Mechanics* (second edition).

MATERIA MEDICA AND THERAPEUTICS.

A well-known and useful book as a manual of materia medica is Dr. Garrod's *Essentials of Materia Medica and Therapeutics*, edited by Dr. Buchanan Baxter (sixth edition, Longmans and Co.) It requires, however, to be supplemented by a treatise on therapeutics; for which purpose Dr. Ringer's *Handbook of Therapeutics* (eighth edition, H. K. Lewis), Dr. Waring's *Manual of Practical Therapeutics* (third edition, J. and A. Churchill), Dr. Alexander Harvey's *First Lines of Therapeutics* (H. K. Lewis), Dr. Farquharson's *Guide to Therapeutics* (Smith, Elder, and Co.), and Dr. Sparks's edition of Binz's *Elements of Therapeutics* (J. and A. Churchill), are to be recommended. Dr. Milner Fothergill's *Practitioner's Handbook of Treatment* (Macmillan and Co.) will be especially welcome to those who are interested in the endeavour to show the agreement between science and practice. Dr. H. C. Wood's *Treatise on Therapeutics* (Smith, Elder, and Co.) pays special attention to the therapeutic action of drugs. Other trustworthy books are Dr. W. G. Smith's *Commentary on the British Pharmacopæia* (Smith, Elder, and Co.), Royle and Harley's *Manual of Materia Medica and Therapeutics* (sixth edition, J. and A. Churchill), Neligan's *Medicines*, edited by Mr. Macnamara (Fannin and Co.), Dr. Handsel Griffith's *Materia Medica and Pharmacy*, edited by Dr. Duffey (Baillière, Tindal, and Cox; and Fannin and Co., Dublin), Dr. R. Bartholow's *Practical Treatise on Materia Medica and Therapeutics* (H. K. Lewis), Thorogood's *Student's Guide to Materia Medica* (J. and A. Churchill), Milne's *Manual of Materia Medica and Therapeutics*, fourth edition, by Dr. W. Craig (Livingstone, Edinburgh; and Simpkin, Marshall, and Co.), and Dr. Phillips's *Materia Medica and Therapeutics* (J. and A. Churchill). Dr. Lauder Brunton's *Tables of Materia Medica* (Smith, Elder, and Co.), are a most comprehensive and valuable syllabus, and will be very useful to the student. So also are Dr. I. Owen's *Tables of Materia Medica* (fourth edition, J. and A. Churchill). We have already referred, under the head of Botany, to Messrs. Bentley and Trimen's *Medicinal Plants*.

As text-books in the application of Electricity to Medicine, besides Dr. Althaus's *Treatise on Medical Electricity* (Longmans and Co.), the following are likely to prove useful to students; viz., a *Text-Book of Electricity in Medicine and Surgery*, by Dr. G. V. Poore (Smith, Elder, and Co.); a *Handbook of Medical and Surgical Electricity*, and *How to Use a Galvanic Battery*, by Dr. H. Tibbits (second edition, J. and A. Churchill); and Mr. A. de Watteville's *Practical Introduction to Medical Electricity* (H. K. Lewis).

FORENSIC MEDICINE, ETC.

As elementary works of convenient size, and containing valuable instruction, Dr. A. S. Taylor's *Manual of Medical Jurisprudence* (tenth edition, J. and A. Churchill, Guy and Ferrier's *Principles of Forensic Medicine* (Renshaw), and Dr. H. A. Husband's *Student's Handbook of Forensic Medicine and Medical Police* (third edition, Livingstone, Edinburgh; and Simpkin, Marshall, and Co.) are to be recommended. The more advanced student and the practitioner should consult Dr. Taylor's *Principles and Practice of Medical Jurisprudence* (second edition, J. and A. Churchill); the *Handybook of Forensic Medicine and Toxicology*, by the late Dr. Bathurst Woodman and Dr. Tidy (J. and A. Churchill); Dr. Ogston's *Lectures on Medical Jurisprudence* (J. and A. Churchill); and the translation of Casper's *Forensic Medicine*, published by the New Sydenham Society. The last-named book gives an idea of the manner in which medico-legal investigations are carried out on the Continent.

Under the head of Hygiene the principal books are, Dr. Parkes's *Manual of Practical Hygiene*, edited by Dr. de Chaumont (fifth edition, J. and A. Churchill); Wilson's *Handbook of Hygiene and Sanitary Science* (third edition, J. and A. Churchill); Dr. de Chaumont's *Lectures on State Medicine* (Smith, Elder, and Co.); Hart's *Manual of Public Health* (Smith, Elder, and Co.); and Hart's *Truth about Vaccination* (Smith, Elder, and Co.).

The following works by Mr. H. C. Burdett are useful for consultation by those who desire to obtain diplomas in State Medicine or to take charge of Medical Institutions:—*Cottage Hospitals, General, Fever, and Convalescent: their Management, Construction, and Work*. The second edition of this book is just ready. It contains a large mass of information upon the sanitary arrangement, proper construction, and administration of all Hospitals and Medical Institutions having 50 beds and under. Information is given upon all points affecting the mortality of large and small hospitals. The most complete chapters upon mortuaries and American hospitals have been added to this edition.—*Pay Hospitals and Paying Wards of the World*. This book contains an account of the system of hospital administration adopted in every country.—*Hospital Income and Expenditure and Hospital Nursing* is a most accurate and complete work on these subjects.

DIETETIC NOVELTIES.

GREGER'S IMPERIAL RIESLING WINES.

These wines are the produce of the estates of the Archduke Albrecht, uncle to the present Emperor of Austro-Hungary. They are grown from Riesling Vines, imported from the famous Johannisberg vineyard, which have been found to prosper in the soil of the Archduke's Villany Estates. The cultivation in course of years has been greatly extended, and upwards of one million bottles of the wine are now annually produced. It is a pure natural wine of fine bouquet; the ash-salts are rich in phosphoric acid, and we feel little doubt that this wine will very soon achieve an established position in this country and become as popular as some of the better class of Bordeaux and German wines now are. The Yellow Seal Riesling at 24s. is a wine of remarkable charac-

ter at so low a price, while the white variety is, in our opinion, a finer quality than most of what is now sold here as Sauterne, which is generally a poor white Burgundy of unknown origin and mixed quality.

NEW INVENTIONS.

Messrs. Southall Bros. and Barclay, of Birmingham, had a large display of surgical appliances, pharmaceutical specialities and rare drugs and chemicals, at the Annual Museum held in connection with the recent meeting of the British Medical Association at Cambridge.

We may notice specially the 'LADIES' NEW SANITARY TOWEL', an absorbent and antiseptic article intended to be used by ladies as a substitute for the inconvenient napkin in ordinary use during the menstrual periods. At once absorbent, highly elastic, and exceedingly soft, it is obviously more comfortable than the hard diaper, and as it is intended to be burnt after use all danger arising from keeping soiled linen in the house is obviated. Larger pads for use in childbed were also shown, as well as various other forms, made of the same absorbent and antiseptic materials, for surgical cases of all descriptions.

A NEW SEA-SALT.—The 'Aquarium' Sea Salt was also exhibited, which is alleged to be different from all similar articles, as it contains in full amount all the principal constituents of real sea-water; and though primarily intended for bathing purposes, may also be successfully used for aquaria.

A novel collection of analysed specimens of various ARTICLES OF FOOD AND DRINK, such as is sold for educational purposes by Messrs. Southall, was also on view, the intention of this collection being to give at a glance the comparative values of different articles of food and drink by showing the actual amount of the various constituents naturally present; and from such a set of illustrations much may be easily learned and remembered. For instance, taking the examples given, bread may be regarded as showing generally the composition of the cereal grains, and when contrasted with peas, as representing the pulses, used as an illustration of the superiority of the latter so far as nitrogenous or flesh-forming matter is concerned. Again, the nutritive value of milk, when compared with a similar quantity of ale or wine, might also be brought out; and as this set, though necessarily limited as to the number of articles chosen, contains a *type specimen* of each class of foods, it is capable of proving very useful, and may be recommended to all interested in teaching or lecturing.

CHIAN TURPENTINE, the new remedy for cancer, was shown in an interesting manner by a large number of well-arranged specimens and microscopic slides; and Professor Clay sent to Messrs. Southall and Barclay a number of specimens which he had just received directly from Chio, in further illustration of the article. The collection embraced the imported turpentine in an unstrained state and full of extraneous matter, the same strained abroad, and examples strained in England by Mr. Clay. The woody matter and fragments of silicious matter, which form an important part of the unstrained article, were also on view, as was also a specimen bottle of the peculiar green seeds of the tree yielding Chian turpentine (*Pistacia Terebinthus*, L.).

Among the rare drugs and chemicals shown by Messrs. Southall, we may mention CASCA BARK from Africa, and recently used in this country in certain forms of heart disease; HOMATROPIN, an organic base artificially produced, and possessed of a powerful action when used in eye-diseases, and likely to be largely employed in medical practice; and HYDROPIN, a Russian remedy for dropsy, which is obtained from the cockroach (*Blatta orientalis*).

MISCELLANY.

THE Council of the Sanitary Institute of Great Britain have awarded a medal to Messrs. Woollams and Co., 'as a special mark of merit' for their 'paper-hangings free from arsenic', shown at the late Croydon Exhibition, after an exhaustive examination of a large number of samples.

EPICURISM.—In the Geographical Section of the recent meeting of the British Association, Mr. Carl Bock gave an account of his exploring expedition in Borneo for the Dutch-Indian Government. Mr. Bock had the good fortune to spend a couple of days with the Rajah of the only cannibals in Borneo. This individual, who is described as an extremely ugly savage, found the brains and palms of men delicious to his taste, but he was fastidious with regard to the male shoulder, which he condemned for having a bitter flavour. Mr. Bock did not state whether this epicure found the shoulders of his female subjects more to his taste.

TUBERCULOSIS IN COWS.—Dr. Heath, President of the American Farmers' Club, recently read a very important paper before that society on the subject of tuberculosis in domestic animals, and some of its effects on human health. He says that this disease prevails extensively among such animals all over the world, and especially in populous and crowded localities. Cows which are kept shut up in close, foul air, as is the case with large numbers in and about London, are very liable to it. He says that observations in Mexico led to the conclusions that 34 per cent. of all beasts slaughtered there showed them to be more or less affected with this disease, and he is of opinion that 50 per cent. of the cows kept in large towns are thus diseased. The fact that this is not more generally recognised is of course owing to the animals being slaughtered before the disorder has attained any very noticeable development. According to Dr. Heath, if cows, like human beings, were allowed to die from natural causes, the proportion succumbing to tuberculosis would be quite as great, and probably much greater.

NARCOTISM FROM NUTMEGS.—The fact that nutmegs have strong narcotic properties has long been known; but they are in such common use as a favourite condiment used in small quantities that their dangerous nature, when taken in large quantity, is apt to be overlooked and forgotten, even by those who are aware of their tendency. The *Scientific American* states that a physician reports a case where a lady patient during his absence was induced by her old nurse to take nutmeg tea. One-and-a-half nutmegs were used in making the tea, and the patient drank the whole of the decoction during the day. About ten o'clock at night she began to be drowsy, and by four o'clock the next morning was in a profound stupor. At ten o'clock in the morning the narcotic effects of the nutmeg began to pass off, and by four o'clock p.m. she had pretty well recovered. The symptoms were about the same as those produced by opium, and the remedies given for them were the same. Nutmeg, in the quantity of two or three drachms, has been known to produce both stupor and delirium, and dangerous and fatal consequences are said to have followed its free use in India. Mace, which is the outside covering of the nutmeg, possesses essentially the same properties.

The London Medical Record.

THE THERAPEUTICAL SOCIETY OF NEW YORK ON CARIES OF THE ANKLE-JOINT.

IN the *New York Medical Journal*, April 1880, is a report on 'the various methods of treating caries of the ankle-joint, the result of chronic disease: whether by excision (gouging, chiselling or spooning), extension, rest, or the expectant plan,' from a Committee of the Therapeutical Society of New York. We turned to this report with great interest, since the subject is one in which we have long been deeply concerned, and on which we have done something towards the collection of materials for a more correct judgment than, we believe, now prevails amongst the surgical profession. We confess to having felt the greatest surprise and disappointment at finding that all the rest of the methods of treatment enumerated in the title of the report are entirely unmentioned in the report itself, except by such meagre notices as only suffice to show that the members of the Committee have neither personal experience of them nor any adequate acquaintance with the published literature on the subject; and that, in fact, the report is nothing whatever except a collection of most imperfectly recorded cases, which only show that spontaneous recovery from disease of the foot is not uncommon under proper general treatment. Who ever doubted or could doubt this? No surgeon, however, of experience can have failed to meet with cases in which, from the painfulness of the disease, or from its extent or from its persistence, the expectant treatment is obviously inapplicable; and then comes the question, which of the other plans of treatment enumerated in the title of this report is to be chosen, and a most interesting surgical question it is. But the Committee supply no materials whatever for the answer. Their cases, as here given, are ludicrously insufficient in the primary requisite, viz., the description of the diseased condition when the patient was first seen. In no one of the cases is there the slightest proof adduced that the ankle-joint itself was really affected at all. In the only case (No. xv) where any details whatever are given, it would appear that the disease was confined to the os calcis and the neighbouring articular surfaces of the astragalus and cuboid. In some of the other cases it is said that 'pieces of bone' were removed, but not where these pieces of bone came from. In no case is it stated that crepitation in the joint, or a sinus leading into its cavity, gave proof that the ankle itself was implicated; and till this point is proved, of course no question of the excision of the joint can even be raised. On this head, the Committee append the following singular note: 'In these cases it has been thought best to make no close distinction between the special bone or bones involved in the carious process; in fact, it is generally difficult, if not impossible, to determine this matter with accuracy. Whenever caries affects any of the bones at the ankle-joint or those of the tarsus, the general course of the symptoms is the same in most cases, and the variation is only in the extent of the lesion.' One of the cases here brought forward to illustrate the subject of 'caries of the ankle-joint' was an instance of necrosis of the whole of the os calcis.

Of course, with such views of the surgery of cases of disease of the foot, it is not to be wondered at that the Committee has not much experience of excisions in the ankle and tarsus. There is, however, no insuperable difficulty in diagnosing the parts of bone affected, with, at any rate, sufficient accuracy to justify an exploratory operation; and in very many cases (far more, in the opinion of the present writer, than is as yet generally admitted) the disease will be found so limited that the patient can be restored to health and activity by the excision of the ankle-joint. The same applies also to excision of the os calcis, and, in a less proportion of cases, to the excision of the astragalus alone. Excisions in the anterior part of the tarsus are not often successful, at least in the experience of the present writer. But they seem to do little harm, for no instance has occurred to him, out of a large number of cases, in which the success of amputation has been prejudiced by preliminary excision. No information, however, on these points, can be obtained by reports drawn up so loosely as the one under consideration.

T. HOLMES.

O'NEILL ON COLLES'S FRACTURE.

WE have noticed, in the number of the *Dublin Journal* for June 1880, a somewhat interesting paper read before the Ulster Medical Society on February 8, 1880, on the above subject, by Dr. Henry O'Neill, assistant surgeon to the Belfast Royal Hospital. Dr. O'Neill is a warm partisan of Dr. Gordon's method of treatment in this injury, and he also shares the views which are prevalent among Irish surgeons as to the absence of impaction in Colles's fracture. It is in relation to the latter point that a strange discrepancy occurs between our Irish *confrères* and the surgeons of Great Britain and the continent; for, while English, Scotch, French, and other surgeons generally believe that fracture of the lower end of the radius is very commonly impacted, the surgeons of Ireland seem to make it almost a personal matter to prove that this is not the case. Dr. R. W. Smith, in his valuable work published in 1850, strongly combats the notion of impaction, and in this he is supported by Dr. Gordon; and Dr. O'Neill adopts the same view, chiefly, however, from *à priori* considerations of the mode of production of the fracture, and from the condition of parts in fractures produced on the dead subject. 'The fracture,' says Dr. O'Neill, 'is usually caused by falling on the palm of the hand, with the wrist violently extended; the anterior common ligaments and flexor tendons, being forcibly stretched, act on the anterior border of the carpal surface of the radius at right angles to its long axis, forcing it backwards, so that the radius breaks almost transversely, or with a variable degree of obliquity from before backwards and upwards.'

With reference to this, we would say that this, like most of the mechanical explanations of the mode of production of fractures, is, to our minds at least, extremely dubious—and that the fracture seems more probably to be in most cases produced by the transference of direct force from the palm of the hand to the lower end of the radius, a mode of production very likely to cause impaction; while, if the end of the bone is, as Dr. O'Neill imagines, torn away from the shaft by the tension of the ligaments and tendons, impaction would doubtless be less probable, though even then by no means impossible.

With regard to the non-occurrence of impaction in fractures produced on the dead subject, we cannot af-

tribute very much importance to this; since the conditions are so different. But what has always surprised us is that the Irish writers on this subject should persist in ignoring Mr. Callender's evidence, which is positive as to the existence of impaction in three recent specimens dissected at St. Bartholomew's Hospital, as well as other recent specimens preserved in the Museums of the London and Middlesex Hospitals; and this is the more remarkable since Professor Smith, writing in 1850, asks for the very evidence which Mr. Callender produced in 1865 (*St. Bartholomew's Hospital Reports*, vol. i, p. 283.)

Here are Smith's words, quoted by Dr. O'Neill in this very paper. 'Until the result of the examination of recent specimens can be adduced in support of the theory of impaction, I shall be inclined to believe that the impaction is only apparent, and that the compact tissue of the shaft is not found enveloped in bone, from its having penetrated the lower fragment at the time of the occurrence of the injury, but because it becomes subsequently encased in osseous matter during the process by which the bony union of the fracture is accomplished.'

In reply to this challenge, Mr. Callender produces the notes (and in two cases refers to the preparations) of three instances in which this fracture was dissected in the bodies of persons who had died of other injuries a few hours after the accident, and found to be impacted. Yet the evidence seems not to be satisfactory; at least it is quietly ignored.

Dr. O'Neill does, indeed, admit that when the lower end of the radius is broken by a fall on the back of the wrist, impaction does occur. But any reader of Mr. Callender's paper can see that that careful and accurate writer had distinguished between this less common form of Colles's fracture and the ordinary cases, to which latter class all the three above-mentioned belonged. Mr. Callender shows that the direction of the impaction is found to vary with the direction of the force, as it naturally would; we cannot therefore avoid subscribing to the belief of those who admit the frequent occurrence of impaction in this injury. The question is one of considerable importance in the treatment. For, to those who believe in impaction, the point of chief moment is that such impaction should be if possible disengaged, and the parts put in a perfectly natural position, at the time of the injury. This is usually not difficult. 'The deepest impaction,' says Mr. Callender (meaning the deepest he has met with among the specimens in various museums), 'does not exceed five-tenths of an inch, usually it is much less', so that firm traction under anæsthesia would probably disengage the fragments in any case where they could not otherwise be brought into apposition; and we believe that, when the parts are thoroughly reduced at first, the injury may be very successfully treated by straight back and front splints. We say this with no hostility to Gordon's splint; in fact, we believe with him that the great essential of successful treatment is to restore the proper concavity of the front surface of the lower portion of the radius; and, so far as Gordon's splint ensures this end, it is of value. But accurate reduction necessarily involves the restoration of the natural shape of the bone—and it is difficult to see what there is to displace the lower end again when once it has been reduced and is kept quiet. We repeat that personally we have a high opinion of Dr. Gordon's splint, and have used it successfully; but we feel that a too exclusive trust in this or any other form of apparatus has some tendency to lead the surgeon astray from what ought to be his first

and great object—the accurate reduction of the parts at the earliest possible moment, and by the exertion of any necessary amount of force which seems justifiable. T. HOLMES.

HOOTZ ON TREPANATION OF THE MASTOID PROCESS.

Dr. F. C. HOOTZ, of Chicago, contributes to the *Archives of Otolaryngology*, for June 1880, a very interesting paper on the indication for an early trepanation of the mastoid process in acute purulent otitis media, with implication of the mastoid cells. After having pointed out, by reference to authorities, the small chances of recovery from this disease without operation, and the comparatively simple and safe character of the operation of perforation of the mastoid, the author gives extracts from Burnett, Buck, Schwartze, and others, to show that the operation is usually regarded as a sort of *ultimum refugium*, and only performed after Wilde's incision has failed to give permanent relief. (It may be mentioned that one of Schwartze's cases was fatal from the middle fossa of the skull being opened, owing to a malformation of the mastoid. This, however, he considers very rare.) The author thinks it strange that many surgeons still adhere to 'a mode of treatment so objectionable and irrational', when, according to him, experience has shown—1. That trepanation of the mastoid is attended with scarcely any greater danger than Wilde's incision; and 2. That this incision alone gives no relief in cases of internal mastoid inflammation. The author is of opinion that Wilde's incision should really only be considered as an exploratory incision (to ascertain the state of the periosteum), and that, in the early stage of the disease under consideration, before the bone was become perceptibly affected, the condition of the periosteum, as revealed by this incision, should govern our action in these cases upon the following principle. 'When in the course of an acute purulent otitis media the mastoid region becomes implicated by pain, redness, swelling, and tenderness to the touch, and these symptoms are not speedily relieved by leeches and poultices, an exploratory incision should be made down to the bone. If marked symptoms of acute periostitis are found, our surgical interference shall end with the incision. But if the periosteum is found of firm texture, normal thickness, and strongly adherent to the bone, the incision should immediately be followed by the perforation of the bone.' The following are the advantages which the author claims for this early and immediate operation. 1. It abridges the suffering of the patient. 2. It saves the patient from the disappointment of an unsuccessful operation and from the anxiety and excitement of a repeated operation. 3. It shortens the course of the suppurative inflammation, and thereby limits its destructive effect. 4. It arrests the disease before it can become dangerous to life. 5. It enhances the possibility of restoring a useful amount of hearing power. The author refers, in support of these views, to a case reported by Dr. Knapp at the last meeting of the American Otological Society (see abstract in LONDON MEDICAL RECORD, May 15, 1880), and also to two cases of his own which he reports at length. In the first of his cases, which was one of acute suppurative otitis media, with opening in Shrapnell's membrane, the skin over the mastoid was red and tumified. As the application of leeches only produced temporary benefit, whilst the pain increased in

severity and the mastoid became more swollen and tender on pressure, Wilde's incision was made under chloroform. No pus was found under the periosteum, which membrane was firm and adherent to the bone, the surface of which was smooth and hard. The mastoid was therefore immediately perforated with Buck's conical drill, and at a depth of about one-eighth of an inch pus oozed out by the side of the instrument. On enlarging the opening a considerable quantity of creamy pus escaped, but no caries could be detected. The wound was syringed and dressed with carbolic acid. In about three weeks after the operation the wound closed, leaving a firm depressed cicatrix adherent to the mastoid bone, and only a linear scar was to be seen on the membrana tympani. The second case was that of a boy, aged 8 years, the subject of chronic otorrhœa, who suffered from an acute relapse of inflammation after measles, complicated with mastoid abscess after a fall. Leeches failing to give relief to the tenderness and swelling of the mastoid, Wilde's incision was made under chloroform, and the periosteum found strong, thin, and firmly adherent to the bone, the surface of which was smooth and hard. With Buck's drill the mastoid was perforated, and at least a teaspoonful of creamy pus was let out; no caries or necrosis was found. The wound was dressed antiseptically. From that day the pain ceased, and the patient improved so rapidly that on the fourth day he went out again. All swelling having disappeared. In three weeks the wound behind the ear had closed, but slight otorrhœa persisted for some time.

E. CRESSWELL BABER, M.B.

STILLMAN ON A NEW EXTENSION APPARATUS IN ORTHOPÆDIC AND GENERAL SURGERY.

REST is universally conceded to be the chief requisite in the treatment of inflammatory conditions of joints, but complete rest of a joint is never produced during life without the employment of some extending apparatus—and rest is not incompatible with motion if correct extension be employed. The surfaces of a joint are kept in close coaptation by, 1st, the inherent contractility of the muscles about it; 2nd, by the weight of that portion of the body above it; and 3rd, by the ligamentous structure of the joint. If we examine the joint of a corpse—unaltered by disease—we shall find it, after disappearance of the rigor mortis, lax and very mobile. Now, what factors have been eliminated by death to produce this condition? In health, the movements of the joints are controlled by a series of muscles having origin above and insertion below the joints; and so long as life endures there will be a constant involuntary struggle between the opposing muscles, or sets of muscles, to retain a balance of power, since each individual muscle possesses an inherent power of contraction or contractility during life.

The main factor, then, which has disappeared with life, is muscular contractility. The relation of neither the ligaments nor the bones has changed one iota, except so far as they were influenced by the muscles. Therefore, a dead joint is in a state of perfect rest, since the inherent contractility of the muscles, which tend to pull the joint-surfaces strongly together, has been destroyed, and the joint has been relieved of all weight above it. During life, we can only hope to approach this state of complete rest for the joint—and this we must approach, to produce the best curative results—by the use of some mechanical ap-

pliance which, by extension, will act directly against this contractility, also relieve the joint of superincumbent weight, and separate the articular surfaces as much as the ligamentous structure will allow. The surgical profession is now divided on the question of extension—one party favouring its practice and the other opposing it. The latter try to produce rest by encasing the joint in a splint which will fix it in a desired position, and prevent the flexion due to undue contraction of any one set of muscles in its efforts to preserve a balance of power. This plan of treatment is insufficient, since the inherent contractility of the various muscles is not reduced to a degree in which the articular surfaces are prevented from pressing strongly against each other, and no separation of surface is allowed, while motion is also prevented. The more efficacious of these splints are made of plaster-of-Paris, felt, and allied substances, which adapt themselves perfectly to the form of the limb, and yet are rigid and unyielding. The advocates of extension have heretofore chosen one of three principal methods of producing it, which I will here briefly describe, and will also detail a fourth, which presents many new points for consideration.

The three methods of extension most commonly used at the present time in diseases of joints are known respectively as 'Buck's extension', the 'long splint', and 'Hutchinson's method'. Let us for a few moments look at some of the more important defects they present.

The 'Buck's' extension consists in the suspension of weights from the limb, the counter-point being obtained by a perineal pad attached above the hip, or by elevating the lower extremities. It acts as an extender by increasing to a great degree the amount of weight below the affected joint, which, as we have already seen, is combated by the contractility of the muscles. It produces extension certainly, but it does so by impairing the muscular structure of the whole leg; for, by placing this upon the stretch, the muscles themselves lose contractile power if the stretch be prolonged, not only those governing the affected joint, but also those governing all other joints in the limb. In addition to this objection, the patient is obliged to lie in bed, to the great detriment of the general health.

Another form of extension apparatus is the straight extension splint, or 'long splint', which is fixed to the foot below, and the hip above, with the help of a perineal band, the extension being caused by a screw located between these points, which forces the extremities further apart. This is open to the same objection as 'Buck's', namely, that it causes extension of the entire muscular system of the limb, and has the additional fault of not producing it in the vertical line, the foot being thrown inward in proportion as the extension power is exerted. It possesses the advantage over 'Buck's' of not confining the patient to bed; and, variously modified, is the principle upon which are based the forms of apparatus now in use for direct extension in joint diseases. It is, however, inferior to 'Buck's' in the fact that it entirely limits flexion and extension, and thus tends to produce ankylosis by causing prolonged fixation in a straight position. It will be noticed that those forms of apparatus made upon this plan possessing value are attached to muscles in some part of their length by adhesive straps.

The third, or 'Hutchinson's method', is different from either. Its advocates obtain their extension by elevating the unaffected side and swinging the affected joint. The extension obtained by this

method, however, eliminates but one factor, weight, and diminishes the contractility of the muscles only by the amount of weight there is below the affected joint, which, in proportion to the degree of strength of the muscles, is but fractional. Now, the advocates of 'Buck's' and the 'long splint' consider that the lack of support from not wearing a brace accomplishes less good than their method, because it does not prevent the jamming together of the opposing articular surfaces, and thus does not prevent pain and involuntary startings, which occur with more severity at night. These, of course, are due to the inherent muscular contractility of the opposing sets of muscles in their antagonistic efforts to preserve a balance of power.

The fourth method of extension is based upon the proposition that we should endeavour to gain by an extension-appliance a complete reduction of the contractility of muscles so far as it affects the inflamed joint, and yet in such a manner as to not diminish their vitality. To do this, it is necessary for us to push the muscular mass away from the joint by a solid rigid cone, until the inherent contractile resistance of the muscular mass governing the joint is entirely neutralised by the power exerted by the extender. Our two fixed points for extension by this method are gained through the neutralisation of the muscular contractile resistance by the extension exerted, and by attaching the splint to the limb over the insertions of the muscles; and the only part of the muscular system of the entire limb which is put upon the stretch is that lying between the two cones, immediately over the joint. The extension should always be exerted in the axes of the limb, at right angles to the transverse muscular fibres. It is not, as many of our leading orthopædists suppose, and which has brought the practice of extension into much disrepute, the bones which we should attempt to extend. The bones cannot be pulled apart except perceptibly by any ordinary extending power we ought to use unless the ligaments are in a badly diseased condition, and to do so then is bad practice. It is to the elimination of the two factors, contractility of the muscles and the weight above the joint, that we must direct our efforts, together with a sufficient stretching of the ligamentous structure of the joint to allow the normal separation of the articular surfaces as found in the relaxation of death. Then, for the successful treatment of joint-diseases, we must, 1st, control the contractility; 2nd, relieve weight; and 3rd, allow motion, thereby arresting inflammatory conditions, preventing ankylosis, and causing the joint to resume its normal functions.

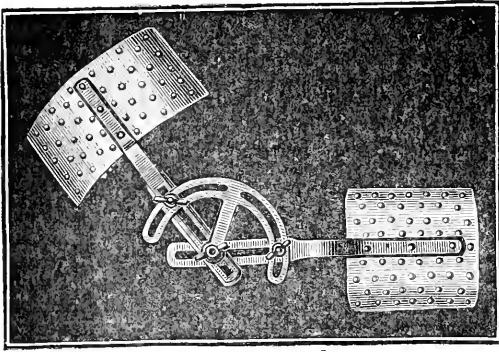
It needs but a glance over these conditions to recognise the fact that no instruments heretofore in use will fulfil all these indications. The reason why a straight extension-appliance, even if properly directed against the muscles, is of little use in subduing inflammatory conditions attended with swelling or effusion, is because the extension-power is not exerted in the axis of the limb, at right angles to the transverse fibres of the muscles; for, as the joint begins to fill, the limb begins to flex, and, taking the knee for example, the extension is not directed in the proper axis of thigh and leg. What we must have to properly treat such a condition is an extension-splint which adapts itself to every angle the limb takes, yet so firmly and rigidly attached, that by counter-pressure against the bulk of muscles above and below the joint, the fibres between the two attachments are caused to lie in a semi-paralytic condition, thus affording the joint rest by trans-

ferring to the extension-splint the task of combating the contractility of the muscles and bearing the superincumbent weight. We have a simple splint in surgery which will meet all these various indications. I devised it two years ago, and have faithfully tried it in every form of disease that I could obtain and on every joint, and each case seems to develop new possibilities. It consists of two slotted strips connected to a slotted sector by three clamps, and can be readily inserted into any form of attachment. I have given it the name of the 'Sector Splint', and its construction is such that it enters as a curative element in every known form of joint disease. If properly attached—and no joint-splint is properly attached if it be not fastened so as to directly oppose the power of the muscles controlling the joint—it is capable of the following combinations without removal from the limb:—1. Extension at any angle with motion, the degree of which may be exactly limited. This is the only splint known by which this can be produced. 2. Extension at any angle with fixation. 3. Exposure of the entire surface about the joint admitting elastic compression, hot and cold applications, blisters, dressings, and easy inspection. 4. Production of passive motion when required. 5. The production of elastic extension, with motion, by the addition of appropriate rubber cords. This alone opens up an entirely new and useful field which will be treated of in a subsequent article—combining as it does, support, extension and elastic education of muscles with deficient power, to which many of our deformities are due. 6. Gradual reduction of deformities and ankyloses.

Let us now turn our attention, as briefly as possible, to a few points connected with the formation and course of an acute synovitis. The articular surfaces from some exciting cause become irritated, and effusion takes place. Take, for instance, the knee-joint. The effusion acts as a lever, to press outward the leading portions of the joint over which muscular or tendinous fibres are laid, and in consequence the contractile force of the muscles is involuntarily excited to jam the opposing articular surfaces still closer together, and as a result of the increased irritation we have still further effusion, with its increased involuntary reflex contractions and injury to the opposed surfaces, and finally implication and swelling of surrounding tissues. This, very briefly, is the reason why an acute synovitis increases with such alarming and distressing rapidity, and so we may lay it down as an axiom that the reflex contractility of muscles controlling an acutely inflamed joint is in exact proportion to the amount of effusion in the joint. Therefore it is that, in order to produce complete rest for a joint, we must have a mechanical extending appliance, whose force shall be directed to overcoming the contractile antagonism of the muscles.

Now as regards the attachment of the sector splint. The sector may be readily inserted into any form of brace attachment known. But when it is desired that the splint should remain upon the limb for any length of time, or, as in acute inflammation of joints, where it is used to reduce the contractile antagonism of the muscles, I prefer to use it in the form of a bracket, which is to be attached to the affected part by some immovable dressing, which will be sufficiently inflexible to prevent unequal pressure upon the soft parts. The sector bracket consists of two terminal plates of thin copper, perforated upon the upper side, connected with each other by a sector

bridge raised to any desired distance from the surface. This bridge consists of two overriding slotted steel strips, connected by three clamps, which may be either thumb-screws or key-clamps.



With regard to the attachment of this bracket, I prefer my combination dressing of swan's-down adhesive plaster and flour-paste, to the plaster-of-Paris so much in vogue, because, 1, it is much lighter; 2, it is more cleanly; 3, it adjusts itself as perfectly to the surface, and has no subsequent expansion or contraction in bulk—one of the chief demerits of plaster-of-Paris; and 4, its adhesive properties. For example: suppose the knee to be the affected joint upon which the sector splint is to be applied with this dressing. When dry, this dressing forms the segment of a hollow inflexible cone which has firmly grasped the muscular structures above and below the joint—the smaller end of the cone being nearer to the joint—and thus any extensile force which pushes these segments further apart, acts directly antagonistic to the inherent strength of the muscles, without reducing their vitality in the least; and since one segment is over the bulk of the thigh-muscles, and the other segment is unalterably fixed over their insertion just below the knee-joint, and



for a little distance beyond the convexity of the calf-muscles (as some of the fibres of the thigh tendons are finally lost in the fasciæ of the leg), it will be seen when extension is produced (by pushing up the upper strip of the sector and fastening the upper clamp, leaving the other two loose, thus allowing motion) that the reflex contractility of the muscles of the joint, and the weight, are both transferred to the sector and its attachments, thus placing the joint in the very best possible condition for recovery—by making it to all intents and purposes a dead joint.

Dr. C. F. Stillman here (*New York Medical Record*, July 14, 1880) relates two cases, which have been under his care, illustrating this point.

Jacob B., aged 27, German lather, seventeen years ago, had a lateral dislocation of the right elbow-joint, which was never reduced, and which left him with limited motion, at a semi-right angle. January 19th, 1880, he presented himself with acute synovitis of the right elbow, having been lathing ceilings for three days. The joint was much swollen, red, tense, and intensely painful. I placed a sector bracket on the outer aspect of the elbow at the angle at which I found the arm (it could not be straightened, owing to previous dislocation and changes in the joint), and after producing moderate extension, fixed it immovably, ordering cold compresses over the joint, which was left exposed. The pain ceased on the production of the extension. The next day the inflammation had greatly subsided, and I then slightly increased the extension, and loosened the lower two clamps, thus allowing him all the motion of which the joint was capable. He went back to his work the next day, and said he was not inconvenienced by the splint, but it seemed to afford him support. That evening I presented him to the Elizabeth Medical Club, consisting of Drs. Green, Pettit, Mravlag, Pinneo, McLean, Wescott, Crane, James, and others, who were witnesses of the peculiar efficacy of the splint in this case. Upon removal of the extension, and thus allowing the contractility of the muscles to reassert itself, pain was again induced. He continued to work until the 30th, when he broke his splint, and continued to work for an hour. At the end of that time his synovitis reappeared, and he came to have the splint reapplied, as he could not work without it. Its readjustment gave him immediate relief, and he continued its employment until the close of the next month, when, all irritation having subsided, its use was discontinued. The sector splint formed in this case a false joint outside the affected one, and performed its functions while the muscles were prevented from producing irritation by reflex contraction.

William B., aged 18, American student, fell from a trapeze on the 17th of April 1880, landing heavily upon his left limb, which gave way at the knee. On the morning of the 19th I was called to see him, and found him suffering from acute synovitis of the left knee-joint, which measured $15\frac{3}{4}$ inches in circumference, the other knee measuring $11\frac{1}{2}$ inches. There was a distinct outward dislocation of the tibia, and some degree of flexion. I applied the sector splint, using only one bracket, and applying it externally to see whether I could not gradually reduce the dislocation while subduing the synovitis. When the splint was in place, and a little extension induced, the clamps were all tightened, and the joint thereby being freed from all movement, reflex or otherwise, his acute pain left him immediately. I then applied an elastic bandage evenly over the

surface of the knee, and ordered a cold bag and left him. Six hours later I found him sitting up in a chair with his leg on the bed, feeling very comfortable. On removing the elastic bandage, the measurement of the knee was $15\frac{1}{4}$ inches, a decrease of half-an-inch in six hours. On the fourth day, the circumference having diminished $1\frac{1}{4}$ inches more, I determined to let him try his weight upon the affected leg, and therefore put all the extension I could on the upper bar of the sector, and fastened the upper clamp firmly, leaving the remaining two loose. He took several steps with ease from pain, but some stiffness. Occasionally, during the day, he would walk a little, and gradually the stiffness in the joint disappeared. At this time I invited Dr. J. S. Green, of Elizabeth, to see this apparent anomaly, a man walking with an inflamed joint without pain. He continued steadily to improve, and finally, on the 13th of May, just twenty-four days after the application of the splint, it was removed, the patient having entirely recovered.

CREDÉ, GEN, AND POOLEY, ON NERVE-STRETCHING.

At the last meeting of the Society of German Surgeons in Berlin (*Med.-Chir. Centralblatt*, No. 31), Dr. Crédé, of Dresden, showed a patient on whom he had performed stretching and division of the third branch of the trigeminal nerve by a modification of Lücke's method. He made an incision down to the posterior surface of the upper jaw. The lower jaw had to be dislocated; he then penetrated beneath the periosteum as far as the foramen ovale, seized the nerve with a blunt hook, and isolated the middle meningeal artery. He then stretched the nerve, and cut it through at the base of the skull. There was no febrile reaction; and the neuralgia was removed.

A long discussion followed on the usefulness of nerve-stretching. Opinions were divided. Esmarch had carried out nerve-stretching seven times with good results; once he had stretched the brachial plexus in tabes with success. Trendelenburg was not so fortunate; he had employed nerve-stretching in six cases, with only one example of success. He was undecided whether nerve-stretching was indicated in tetanus or in tabes. Sonnenburg did not observe any success in tetanus. Vogt laid emphasis on the point that the nerves must be very strongly stretched, and that only the large nerves could be treated. Langenbeck reported that in the cases which he had published of nerve-stretching in tabes, relapse had occurred; and so also in the case of intercostal neuralgia which Nussbaum, on his part, had reported.

In the *Voyenne Meditsinsky*, quoted in *New York Medical Record*, August 1880, it is stated that Dr. A. Gen collected 73 cases of nerve-stretching used as a therapeutic measure. In traumatic neuralgia it was employed 6 times—cured 4, improved 1 (recovered entirely after neurotomy), no improvement, 1; in neuralgia from other causes, in 14 cases—cured 10, improved 3, 1 died from the hæmorrhage; in clonic spasms and contractions, 6 times—cured 4, no improvement 2 (one cured by neurotomy); in peripheral epilepsy, once—cure; in tetanus, 16 times—cured 7, symptoms improved, but disease terminated fatally in 6, symptoms did not improve and patients died, 3; in anæsthetic leprosy, 30 cases, in all cases with marked benefit.

As the therapeutic action of nerve-stretching is not well understood, he performed some experiments in the laboratory of Prof. Tarchanoff with a view to determine it. Some of his conclusions are as follows. Not only mild stretching, but also the use of force equal to half what is necessary to rupture the nerve, may produce an increase of its irritability and conduction. Mild stretching has no effect upon the reflex irritability, but if the force used be great, it is diminished; this effect is also observed on the opposite side, indicating the central seat of the change in its effects. Hence the operation is not limited to the peripheral parts only of the nerve, as Vogt was inclined to think. Under the microscope, he found the traces of hyperæmia and capillary hæmorrhages; the axis-cylinders and myeline might be severed, but Schwann's sheath was intact. He found also peculiar constrictions in the medullary fibres. He considers that the diminution of the reflex activity is the main feature, and in the cases operated on was the condition called for.

Dr. Pooley (*New York Medical Record*, 1880, p. 173), collects 37 cases, and adds two of his own. In the operations, as recorded in his table, the following nerves were stretched; the sciatic, sixteen times; the crural and the median, each five times; brachial plexus and ulnar, each four times; the tibial, three times; the musculo-spiral, twice; the supra-orbital, spinal accessory, facial, inferior dental, and peroneal, each once; making a total of forty-four nerves stretched in the thirty-five cases.

In all the cases of neuralgia (six of sciatica and seven of other forms) except one, the operation has been beneficial, and in most of them the cure has been complete. In the exceptional case, it seems very probable that if the nerve which was subsequently excised with success had been stretched in the first instance, instead of the sciatic, the result would have been favorable. The special form of neuralgia known as sciatica has yielded excellent results from nerve-stretching, which may now be regarded as a thoroughly recognised procedure in obstinate cases. Professional opinion seems to be steadily advancing in favour of the operation in other forms of neuralgia. Especially in the traumatic variety is it likely to prove useful, as here there are more generally found adhesions of the nerve to surrounding tissues which stretching may break up. In such cases it has been found not only to cure the pain, but also the wasting shiny skin, and other trophic disturbances associated therewith.

The success of nerve-stretching is little less marked in local convulsive affections than in pure neuralgia. It is in this class of cases that the most extensive operations have been resorted to—stretching of several nerves, and on both sides of the body—but no ill consequences have resulted to diminish the value of the result.

In the twelve cases of traumatic tetanus for which the operation was done, seven of the patients died, four recovered, and in one the result is not stated. There can be no doubt that, as the matter at present stands, a physician would be culpable who trusted to nerve-stretching alone in this disease, and it may be doubted whether the cases where it has been done as an adjuvant to other treatment show any better average results than from the treatment by chloral-hydrate and (?) Calabar bean.

BRUNS ON THE USE OF MARTIN'S ELASTIC BANDAGES.

DR. PAUL BRUNS, of Tübingen, is a warm advocate of the employment of the India-rubber bandage, and asserts unhesitatingly that Martin's method of treating ulcers of the leg is the best and most effectual that has hitherto been practised. Seventeen cases of ulcer thus treated are reported by this surgeon (*Berliner Klinische Wochenschrift*, Nos. 25, 26, 1880), in order to prove the certainty and simplicity of the method. Not only does this treatment obviate the necessity of prolonged rest and of serious neglect of work, but its duration until complete cicatrisation of the ulcer seems in most cases to be shorter than that required for other methods of treatment in which the patient is kept in bed.

The employment of the rubber bandage has been found very useful by the author in the treatment of other affections of the lower extremities. Cases are referred to which show its utility in simple chronic eczema. It was found that, in cases of long-standing ulceration of the leg with eczema and infiltration and hypertrophy of the surrounding skin, the bandage acted very favourably on the general condition, and that, as the ulcer healed, the scaly and thickened skin became smooth, clean, and soft. The application of caoutchouc in the treatment of the different forms of eczema was long ago advocated by Hebra, but it was used by this physician simply as a waterproof material, with the object of raising the temperature of the affected surface, and of macerating the epidermis by retained perspiration. Martin's bandage not only fulfils these indications, but also exerts elastic compression of the skin, an action of much importance and utility for effecting absorption of infiltration and controlling any varicose conditions of the superficial veins. Dr. Bruns is of opinion that this treatment is likely to be attended with very good results in cases of obstinate and relapsing chronic eczema of the lower limb, due to disturbance of circulation and nutrition. The advantage of applying compression in cases of varicose dilatation of veins, associated with infiltration of the cellular tissue, is universally recognised, and hence the common use of elastic bandages and stockings. The use of Martin's bandage has this advantage, that the degree of compression may be readily and easily controlled, and that the rubber is a durable material. There is frequently difficulty in procuring a well-fitting stocking; and with both stockings and the ordinary elastic bandages the material is apt to lose its elasticity, and so to become useless. Dr. Bruns states that he has attained very striking results from the use of the rubber bandage in the palliative treatment of varicosity. The patient no longer complains of pain on standing or walking, and the sensation of heaviness and weariness is absent even during active labour. One case is quoted in which a good result was obtained, although on the first application of the bandage the varix was on the point of bursting. Cases have been reported by Martin and others in which a radical cure of varicose veins had been attained by the prolonged employment of the rubber bandage, but Bruns is of opinion that such a result is hardly to be expected in instances of varicosity of extreme degree.

The employment of the rubber bandage is also indicated, Dr. Bruns thinks, in cases of elephantiasis of the lower extremity. In slight forms of this affection good results have been attained through elevation of the affected limb, and firm and forcible application of flannel bandages. The thickness of the limb

has thus been reduced even to the normal size, but usually relapse occurs after the patient has ceased to maintain continuously the horizontal position. A double advantage might fairly be expected from the employment of the rubber bandage. In consequence of the compression of the limb being more regular and forcible, the duration of the treatment might be shortened, and the period of necessary continuous rest in the horizontal position reduced; and, besides, the habitual wearing of the bandage might prevent the occurrences of relapse. In two cases, treated by Dr. Bruns, of chronic ulceration of the leg, associated with thickening and degeneration of the skin, of the nature of elephantiasis, this latter condition was completely removed after the application of the rubber bandage, although the patients were not confined to bed.

The rubber bandage, on account of the perfect elasticity of its material, is the most fitting of all known agents for compression in cases of joint-disease. With regard to the indications of its employment, Dr. Bruns states that he has attained excellent results from its employment in cases of articular distortion. He has applied the bandage in cases both of recent and of chronic distortion of the wrist, knee, and ankle. In recent cases the swelling caused through intracapsular effusion is kept within bounds, and in late stages absorption is accelerated by the compression of the bandage. By continuous wearing of the bandage, which serves as an effectual support to the affected joint, the utility of the limb is restored in a short time.

In two cases of hæmarthrosis recently under the care of Dr. Bruns, and treated by the application of the rubber bandage, the extravasated blood was absorbed in a much shorter period than one might expect to suffice with the use of an ordinary bandage. In a case of fracture of the patella with hæmarthrosis, also treated by the rubber bandage, the abundant effusion of blood was absorbed within eight days. As an agent for bringing together and fixing the fragments of a broken patella, this bandage acts more effectually than strips of plaster.

Dr. Bruns has not hitherto had any experience of the use of the bandage in the treatment of acute hydrarthrosis, but he refers to cases reported by Byrne (*Lancet*, 1879, p. 645), in which striking results were attained from its employment in acute synovitis. The rubber bandage is particularly useful in cases of hydrarthrosis. The main difficulty in the treatment of this very troublesome affection consists, not in procuring absorption of the effusion, but in the extraordinary tendency to relapse, which usually occurs sooner or later after use of the affected limb. The bandage has been applied by Dr. Bruns in three cases of chronic hydrarthrosis of the knee with very promising results, and by its long-continued application the tendency to relapse seems to have been permanently obviated. In one case the effusion was absorbed in two days on forcible compression, and in the other two cases in four and six days on gradual and slight compression. The bandage in each case was then worn night and day for two months. No relapse occurred in two of these cases after an interval of four months, and in the third case after one year. In the use of the elastic bandage in cases of this kind, Dr. Bruns thinks it well to apply a weak and continuous rather than forcible compression. The application of forcible compression demands some care when the elastic bandage is used instead of a flannel bandage. The former, even when not applied very firmly, exerts through its great elas-

ticity an equable and permanent compression, and acts with much greater effect than a firmly applied inelastic roller. Instead of reducing the intra-articular effusion through forcible compression of the joint, Dr. Martin removes the fluid by aspiration, and then applies the rubber bandage, which is worn night and day for at least six weeks. A similar treatment has been carried out with much success in cases of prepatellar hygroma.

The rubber bandage, as it can readily be cleaned and disinfected, is a better agent than the bandage made of elastic webbing for producing artificial anæmia of a limb before operation, and also for retaining in position antiseptic dressings. When applied over a gauze dressing it ensures absolute occlusion, and at the same time exerts equable compression, a condition favourable, in many cases, to healing of a wound by first intention.

W. JOHNSON SMITH.

LICHTHEIM ON RESORCIN AS AN ANTI-PYRETIC.

PROFESSOR LICHTHEIM, of Berne (*Correspondenzblatt für Schweizer Aerzte*, July 15), has made researches on the action of this body which indicate that we possess in it a powerful antipyretic, which in several respects is preferable, in regard to the extent and security of its action, to quinine and salicylic acid. If a dose of two or three grammes (30 to 45 grains) of resorcin be given in solution or in substance to a patient in a high state of fever, the first signs of its action show themselves after a few minutes. Giddiness and buzzing in the ears occur, the face becomes reddened, the eyes are brighter than before, the breathing is quickened, and the pulse more frequent by several beats, and generally somewhat irregular. Ten to fifteen minutes after the dose, the skin begins to become moist, perspiration becomes gradually stronger, and after fifteen minutes more the whole body is bathed in sweat. With this outbreak of sweating the symptoms of stimulation which first occur disappear; the giddiness and buzzing in the ears have usually passed off in about fifteen minutes after the taking of the medicine, and a rapid defervescence occurs at the same time with active sweating. The frequency of pulse and the temperature are quickly reduced, and within an hour after the administration of the medicine both have fallen to the normal standard. The secretion of sweat has meantime stopped; the skin of the patient is moist and cool, and his general condition is that of an individual free from fever; the amount of difference of temperature in such cases is about three degrees centigrade (5.4 Fahr.) or more; the frequency of the pulse sinks more than a third. These marked effects are, however, by no means always to be observed. A very great difference in the resistance of fevers to resorcin is to be noted, and here the same rules apply as in the action of the antipyretic agents already known. The less the tendency to spontaneous remissions, the less is the antipyretic effect of resorcin. The fevers of pneumonia and erysipelas are in general more obstinate than that of typhoid fever, and severe typhus in the first stage is controlled by resorcin much less promptly or much less adequately than the mild forms. On the other hand, resorcin does not completely fail, according to Lichtheim's experience, even in the most obstinate fever. Temperature and frequency of pulse fall also in these cases; only the fall of temperature often does not amount to more than one or two degrees

(centigrade), and the pulse-beat to a corresponding extent. An unmistakable parallelism exists between the extent of secretion of sweat and the intensity of the defervescence, and the more marked these were, the greater is the fall of temperature.

Although resorcin has advantages over salicylic acid and quinine in respect to the certainty of its action and the extent of its effect, the duration of its action is much less than that of the above-mentioned remedies. Within two hours after its administration, and generally after three to four hours, the temperature begins to rise; and it rapidly ascends to its previous point, the patient meantime complaining of a sensation of cold which sometimes amounts to a severe rigor. An hour later the temperature and frequency of pulse will be found at the former point, and the general state of the patient corresponding to it.

A great disadvantage of resorcin lies in the preliminary stage of excitement, to which reference has already been made. These symptoms of stimulation show themselves very strongly in a number of cases. Even in the milder forms, moaning respiration is often noticeable, together with an increase in the frequency of respiration; and the tardy answers which the patient gives show that he is in a state resembling intoxication. In other cases these cerebral symptoms are much more marked: the patients begin to be delirious, they do not know where they are, they talk wildly, and their expressions indicate that they have illusions; speech becomes sometimes muttering and difficult to understand, and often there is at the same time a slight convulsive trembling of the hands and fingers. One patient fell into a deep sleep from which he could not be aroused, but from which at the commencement of the defervescence he awoke without any unpleasant symptoms. The latter observation, which is unique, was, however, not made by Lichtheim himself.

All efforts which Lichtheim has made up to this time in order to lessen these collateral effects, without injuring the antipyretic effect of the medicine, have been without result. Even when resorcin was combined with salicylic acid, these phenomena of excitement occurred, although they were not very strongly marked. The effect of a dose of two grammes of resorcin on a patient to whom some hours before two grammes of salicylate of soda had been administered, was one of unusually long duration. According to Lichtheim, this phenomenon of excitement is the only difficulty which opposes the general use of resorcin as an antipyretic, especially in private practice. He especially mentions that an existing albuminuria was not increased by the use of resorcin, and that he has never seen any symptoms of collapse either during or after the administration of resorcin. He rejects the idea with certainty that resorcin can exercise any specific action on pneumonia, erysipelas, or enteric fever; on the other hand, it seems to him to be an antidote to intermittent fever. He refers, indeed, to only two cases. In the first case, a quotidian fever with large tumour of the spleen, after a typical attack, he administered two grammes of resorcin at the beginning of the first premonitory symptoms of fever; only a very slight elevation of temperature occurred, no further attack of fever followed; the tumour of the spleen subsided very slowly, and the patient was allowed to leave at his own wish, with still a very large spleen. In the second case there was also a very old intermittent fever of the quartan type, with a large splenic tumour. The patient had gone through three

paroxysms before he began the treatment. Dr. Lichtheim gave, at the commencement of the fourth attack, three grammes of resorcin. The shivering, which had already begun, passed off, but after about an hour recommenced, when two grammes of resorcin were again administered. The subjective symptoms of fever were completely cut down in the patient, although a slight elevation of the frequency of pulse and of the temperature occurred. On the next febrile day the prodromata of fever showed themselves again, but two grammes of resorcin sufficed to cut them short, and the elevation of temperature and pulse was only on a minimum scale. No subsequent attack of the fever occurred.

Together with the very moderate price and much more agreeable flavour, resorcin has a great advantage over quinine, in that the administration of the medicine can be postponed to the beginning of the attack, and that, when the dose has too slight an effect, a subsequent increase of it is effectual. In this way any relapse can be prevented before an attack has fully established itself, and on the indication of the well-known prodromal symptoms. In these cases there were not any collateral symptoms, not even the slight cerebral symptoms of giddiness and buzzing in the ears.

LADENBURG ON THE IDENTITY OF THE MYDRIATIC ALKALOIDS.

PROFESSOR A. LADENBURG, of the University of Kiel, who has already made some important discoveries regarding the constitution and products of decomposition of alkaloids, has just published, in the *Berichte der Deutschen Chem. Gesellschaft*, vol. xiii, 1880, the results of further investigations on the solanaceous alkaloids, atropine, hyoscyamine, daturine, and duboisine. His experiments, which seem conclusive, show that hyoscyamine, daturine, and duboisine, are identical with each other, and not merely closely related; and that atropine and hyoscyamine, though not actually identical, are isomeric in composition. He concludes, therefore, that there occur in nature only two mydriatic alkaloids—namely, atropine and hyoscyamine.

In continuation of previous papers, giving the result of his investigations, Professor Ladenburg has announced (*ibid.*, 1880, 607) that he has succeeded in converting hyoscyamine into atropine.

When hyoscyamine is decomposed (with baryta or hydrochloric acid) it forms two new products which were heretofore denominated hyoscine and hyoscinic acid. Under similar conditions, atropine furnishes tropine and tropic acid. Ladenburg has now ascertained that both the acids, hyoscinic and tropic, and the secondary alkaloids, hyoscine and tropine, are identical. The author prepared a considerable quantity of the hyoscine, not, however, from hyoscyamine, but from the less costly daturine, the identity of which with hyoscyamine had previously been proven by him. Twenty grammes of commercial daturine yielded ten grammes of hyoscine. In all physical and chemical properties, the latter agreed with tropine prepared from atropine. The identity of the products of decomposition of two substances which are not themselves identical, was so remarkable a phenomenon that the author was induced to try whether he could not prepare the alkaloid atropine, not from tropine and tropic acid (as he had already done previously), but from the decomposition-products of the other alkaloid. For this purpose the following three sets of experiments were made.

1. Tropine from atropine, and hyoscinic acid from daturine, were treated on the water-bath with diluted hydrochloric acid.

2. Hyoscine from hyoscyamine, and tropic acid from atropine, were similarly treated.

3. Hyoscine from hyoscyamine, and hyoscinic acid from hyoscyamine, were treated in the same manner.

The produced alkaloids were precipitated by potassium carbonate, the precipitate dissolved by chloroform, and the latter evaporated. The residue was dissolved in diluted hydrochloric acid and precipitated with chloride of gold. This produced an oily salt, which soon solidified and which was recrystallised from water. In all three cases the product turned out to be atropine-gold, recognised both by its characteristic colour and by its melting point.

Hence hyoscyamine may be converted into atropine, and, on decomposition, both of these alkaloids yield identical products.

WALDO AND CASELLA ON THE ERRORS OF CLINICAL THERMOMETERS.

MR. LEONARD WALDO, S.D., Astronomer in the University of Yale College, U.S.A., writes in the *New York Medical Record*, August 14, 1880: I am in receipt of inquiries from members of the medical profession, which betray such ignorance regarding the amount of error to be expected in the clinical thermometers sold by the dealers, that it seems proper to indicate in a general way the errors actually found to exist. I do this with some reluctance, because it seems an injustice to makers who are already making more accurate instruments under the encouragement of our observatory; yet, as there must some time elapse before certified thermometers will be in general use, and as, meanwhile, many temperature observations will be made which are important, I think there should be some warning given that, without specific knowledge to the contrary, the thermometers in general use are not to be relied upon within one-half degree Fahrenheit.

Of course, I except from this statement those instruments which have a Kew certificate not more than six months old; and if the age of the thermometer could be ascertained to have been one or more years when it was verified, then the verification would hold good for a longer period.

Here, for example, are the corrections of two Casella thermometers of excellent construction:

Correction at	CASELLA, 37,199.		CASELLA, 37,200.	
	Kew Observatory, December 1878.	Yale Observatory, June 1880.	Kew Observatory, December 1878.	Yale Observatory, June 1880.
90 deg.	—0.1 deg.	—0.5 deg.	—0.1 deg.	—0.5 deg.
95 "	—0.1 "	—0.5 "	—0.1 "	—0.5 "
100 "	—0.0 "	—0.4 "	—0.0 "	—0.4 "
105 "	—0.0 "	—0.4 "	—0.1 "	—0.5 "
110 "	+0.1 "	—0.3 "	—0.1 "	—0.5 "

which indicates, since the Yale comparisons were made with Kew standards, whose errors were independently found at Yale to be as they were stated to be at Kew, that the Casella clinical thermometers had increased their readings 0.4 deg. in the eighteen months elapsing between the two comparisons. It is an accepted fact that mercurial thermometers, at the temperatures used in medicine, always increase their readings with age, and much more rapidly in the first few months after the tubes have been made

than at any subsequent time. It is very much to be desired, therefore, that the tubes to be used for thermometers should first be filled with mercury, and then laid aside for two years before they are finally graduated.

It has been suggested that the observatory should not only verify thermometers, but that it receive the ungraduated thermometer-tubes, and, after registering the numbers in them, seal them up in packages for the space of two years; that for such seasoned thermometers the observatory should issue a certificate stating not only the usual scale of errors, but also that they were properly aged before graduation. Such thermometers would change their errors but slowly, and ought to command enough higher price to justify the dealers in the trouble taken. As far as the observatory is concerned, there is no objection to such a procedure.

To show the errors commonly existing in clinical thermometers, I have selected the readings of sixty-eight thermometers verified in June of this year. Since each thermometer had its errors determined at five points of its scale, 90 deg., 95 deg., 100 deg., 105 deg., 110 deg. (except a few which were graduated from 95 deg. to 110 deg.), we have about 320 separate points upon whose errors we can base an estimate of the thermometers in general use. Seven different (and leading) makers, domestic and foreign, are represented in the thermometers used. An analysis of all the readings shows that—

19 per cent. of the readings are within 0.1 deg. of the truth.				
8	"	"	"	between 0.1 " and 0.2 deg. in error.
7	"	"	"	" 0.2 " " 0.3 " "
7	"	"	"	" 0.3 " " 0.4 " "
13	"	"	"	" 0.4 " " 0.5 " "
20	"	"	"	" 0.5 " " 0.6 " "
9	"	"	"	" 0.6 " " 0.7 " "
8	"	"	"	" 0.7 " " 0.8 " "
6	"	"	"	" 0.8 " " 0.9 " "
1	"	"	"	" 0.9 " " 1.0 " "
2	"	"	"	in error more than 1.0 "

Occasionally the observatory receives a thermometer which is evidently wrongly graduated by an even 5 deg., and this provokes the suspicion that there may be such sometimes sold. It is not difficult to trace the causes of the discrepancies given above; one is the too early graduations of tubes before they are seasoned, and another is the use of a standard for graduation which has itself become too high in its readings with age. There is no direct way of determining the errors of clinical thermometers themselves, since neither the boiling nor the freezing points are indicated in their stems; and even the possession of a standard with which a thermometer is to be compared is not very helpful, unless the observer has the means of determining the fiducial points of the standard, and is perfectly sure of the errors of calibration. It is much better to send clinical thermometers to some recognised observatory, and obtain an investigation of their errors. So firmly is this view rooted in the medical mind in England, that in 1879 about 3,400 clinical thermometers were verified at Kew alone.

It is now pretty generally known, at least among the New England members of the medical profession, that the new observatory of Yale College has undertaken to afford to physicians an accurate statement of the errors of clinical thermometers sent to the observatory for such a purpose. This work has but fairly commenced; yet that it will be an important public service, is already abundantly shown by the hearty response made by the profession and the American thermometer-makers to the inquiries instituted by the observatory Board regarding the expediency of

such an establishment. It is in general after the plan of the Kew observatory in England, and a descriptive circular has been prepared for distribution.

We have submitted this statement to Mr. Casella, and he remarks on it as follows.

Mr. Waldo's suggestion that thermometers should be made a considerable time before being graduated is perfectly correct, and it is to be wished that this suggestion received more attention than it does. As, however, in these days of keen competition this is much lost sight of, I would be much pleased to find that Mr. Waldo's suggestions received the attention they deserve, as, having long adopted these acknowledged facts, I have at this moment a very considerable number of thermometers which I can guarantee to have been in stock from three to five years before being graduated, whilst I have also many that have been so kept for eight years before being graduated.

A point of hardship to myself in Mr. Waldo's comments is, that whilst my name is associated with some of the best thermometers referred to, it is not stated that it is unconnected with others which are pointed out as being so defective. Thus, Mr. Waldo says that to show the errors commonly existing in clinical thermometers, he has selected the readings of sixty-eight thermometers, verified in June of this year. Since each thermometer had its errors determined at five points of its scale, 90 deg., 95 deg., 100 deg., 105 deg., 110 deg. (except a few which were graduated from 95 deg. to 110 deg.), he has thus about three hundred and twenty separate points upon the errors of which he can base an estimate of the thermometers in general use. Seven different (and leading) makers, domestic and foreign, are represented in the thermometers used. An analysis of all the readings shows that—

19 per cent. of the readings are within 0.1 deg. of the truth.				
8	"	"	"	between 0.1 deg. and 0.2 deg. in error.
7	"	"	"	" 0.2 " " 0.3 " "
7	"	"	"	" 0.3 " " 0.4 " "
13	"	"	"	" 0.4 " " 0.5 " "
20	"	"	"	" 0.5 " " 0.6 " "
9	"	"	"	" 0.6 " " 0.7 " "
8	"	"	"	" 0.7 " " 0.8 " "
6	"	"	"	" 0.8 " " 0.9 " "
1	"	"	"	" 0.9 " " 1.0 " "
2	"	"	"	in error more than 1.0 "

Now, as I presume that I am not included amongst the foregoing 'leading domestic and foreign makers' (or dealers), I would have liked that to be indicated in Mr. Waldo's remarks. In corroboration of my belief, I annex an analysis of three separate lists of errors taken indiscriminately from verifications supplied with my thermometers from Kew and now in my possession, each series including one hundred indications from the five points referred to by Mr. Waldo, viz., 90 deg., 95 deg., 100 deg., 105 deg., and 110 deg.

In the first series I find that—

39 per cent. of the readings are 0.0 deg. in error.				
37	"	"	"	0.1 " "
19	"	"	"	0.2 " "
5	"	"	"	0.3 " "
100				

2nd series—

26 per cent. of the readings are 0.0 deg. in error.				
50	"	"	"	0.1 " "
20	"	"	"	0.2 " "
4	"	"	"	0.3 " "
100				

3rd series—

24 per cent. of the readings are 0.0 deg. in error.

45 " " " " 0.1 " "

24 " " " " 0.2 " "

7 " " " " 0.3 " "

100

From the above, my objection to have my thermometers classed amongst those with the large errors referred to will be readily perceived. Of the thermometers referred to as being eight years without graduation, I may observe that they are of the five-inch size; whilst of the others, knowing the importance of precision in an article of which I was exclusively the inventor, I habitually made them in quantities that would as far as possible enable me to keep them by me for the desired length of time, though in some cases of exigency, where I fell short of the sizes or particular kinds required, I was obliged to graduate such as had not been kept so long, though in doing so I invariably advised my friends of the fact when supplying the thermometers.

Mr. Waldo says: There is no direct way of determining the errors of clinical thermometers, since neither the boiling nor the freezing points are indicated in their stems. To obviate this difficulty, I have for some considerable time supplied thermometers for the express purpose of testing clinical thermometers. These test-thermometers, being graduated below the freezing point, can at all times be tested in melting ice, the variation thus found, whatever it may be, being uniform. The clinical thermometer in use can be thus retested by this test-thermometer on any special occasion required. I have adopted the plan, to enable the medical profession to again test their own thermometers where there may be a difficulty in sending them to a suitable observatory for re-verification in any change or increased error that may have occurred. I am most glad to find that our American friends are adopting the Kew method of verifying thermometers for public use. This is clearly a step in the right direction, and well accords with the ability and devotion I have invariably found amongst scientific men of their country.

P. CASELLA.

THERAPEUTICS AND PHARMACOLOGY.

1. DEMME.—On Alcohol and Creasote in Infantile Diarrhoea. (*Journal de Médecine et de Chirurgie Pratiques.*)

2. LITTLE, FLETCHER.—On the Successful Treatment at Ben Rhydding of Cases of Chronic Rheumatoid Arthritis.

3. DAJI and LISBOD.—On Ailanthus Excelsa and Bauchee. (*Transactions of the Grant College Medical Society, Bombay.*)

4. HILL, J. SKELTON.—On Boracic Acid in Inflammations of Mucous Membranes. (*Philadelphia Med. and Surg. Reporter*, May 15, 1880.)

5. MARGERY, S.—On the Medicinal Uses of Wattle Bark. (*Chemist and Druggist.*)

6. CERESOLI, P.—A New Vehicle for External Application. (*Rep. de Pharm.*)

7. TEBENAT.—On Phosphate of Zinc. (*Montpellier Medical*, May 15, 1880.)

8. DE RENZI.—On the Treatment of Bright's Disease. (*Virchow's Archiv*, Band 80, Heft 3.)

9. Antidotes. (*Allgemeine Wiener Medizinische Zeitung.*)

10. CHIRONE and TESTA.—The Physiological Action of Picrotoxine. (*Annali Universali di Med. e Chir.*, April 1880.)

11. PICK.—The Therapeutic Use of Pilocarpine in Skin-Diseases. (*St. Petersburg Medic. Wochenschrift*, July 19, 1880.)

12. MASSIAH, C. H.—On a Mode of using Nitric Acid as a Caustic. (*British Medical Journal*, July 1880, p. 197.)

13. SPENDER, DR. JOHN K.—On Movement as a Therapeutic Agent. (*British Medical Journal*, August 1880, p. 205.)

14. SNELL, SIMEON.—On Acupuncture. (*Medical Times and Gazette*, June 1880.)

15. RINGER and MURRELL, DRs.—On the Use of Glycerine in Flatulence, Acidity, and Pyrosis. (*Lancet*, July 1880, p. 6.)

16. MACKESY, W. L.—On Pilocarpine in Asthma. (*British Medical Journal*, August 1880, p. 208.)

17. HARRIS.—On an Attack of Ague while taking Arsenic for Skin-Disease. (*British Medical Journal*, Vol. ii, 1880, p. 201.)

18. MUNRO, W.—On Watching the Pulse during the Administration of Chloroform. (*Ibid.*, August 1880, p. 240.)

1. Demme on Alcohol and Creasote in Infantile Diarrhoea.—In the infantile diarrhoea of infants artificially fed, Dr. Demme of Berne is not content with prescribing breast-milk, but recommends alcohol in conjunction with benzoate of soda or with creasote, after the following formula (*Journal de Med. et de Chir. Pratiques*):—Cognac, 2 to 5 grammes; creasote, 0.1 centigramme; pine tar, 1 to 5 grammes; distilled water, 50 grammes every twenty-four hours between the sucklings. In very young babies the quantity of alcohol—at first two grammes—should be gradually increased to five grammes. The object of this draught is at once to stimulate nutrition, and to check the too abundant formation of the micrococci which load the intestinal glands.

2. Little on the Successful Treatment at Ben Rhydding of cases of Chronic Rheumatoid Arthritis.—Mr. Fletcher Little read a paper at the meeting of the Yorkshire Branch of the British Medical Association at Bradford, on June 16th, in which he described the successful treatment by the aid of the resources of this well-known establishment of several cases of this intractable and most severe disease. They were all cases occurring in women, and all of them were married. One was aged 35, another 51, and the third 67. One had suffered for fifteen months, another for three years, and the third for twelve years. In all, the grating in the joints was most distinct. All were in comfortable circumstances, but they all had gone through severe mental suffering. All shewed—by the silvering of the hair, the anxious appearance, and the evident decrepitude—that decay had set in and must be stopped. All of them improved without any drawback from first to last, under patient treatment, oil-rubbing, the galvanic current, and the Russian vapour baths, applied during residence at Ben Rhydding. The patients had been previously treated by Mr. Pridgin Teale, Dr. Merriman, and others.

3. Daji and Lisbod on Ailanthus Excelsa and Bauchee.—The *Transactions of the Grant College Medical Society*, Bombay, contain articles descriptive of these drugs. Ailanthus excelsa is a tree common to several parts of India. It is a large tree, with smooth, ash-colored bark. The author of the article, Mr. Narryan Daji, gives a minute description of the natural history of the drug, as well as the chemical analysis of the bark. The active principle he regards as an acid, called by him 'ailantic acid.' It is very bitter, and appears to contain the active prin-

ciple of quassia. In many diseases it has been substituted with benefit for quassia. He found its use to be attended with favourable results in dyspepsia, anorexia, diarrhoea, and cholera, and also as a febrifuge in intermittent and remittent fevers. Bauchee is highly recommended in one of the papers of the *Transactions* by Mr. Lisbod, as a remedy in leprosy. It is a native medicine, obtained from *Psoralea corylifolia*, a plant belonging to the *Leguminosae*, and the part used is the seed. This medicine, we are told, is well known to the natives, and has been used by them from the earliest ages in scaly eruptions of the skin, and especially in leucoderma. The author has only tried it in three cases, but his experience confirms the generally received opinion of the natives, that it is a valuable medicine in the treatment of leprosy.

4. *Hill on Boracic Acid in Inflammations of Mucous Membranes*.—Dr. J. Skelton Hill (*Philadelphia Medical and Surgical Reporter*, May 15th, 1880) reports a case of gonorrhoea in which he employed boracic acid injections (half a drachm to four ounces); in four days from the commencement, the patient was perfectly well. In another case, the disease, which had lasted six days, was cured in one week; in this instance the injection was increased in strength to ten grains to the ounce. The patient, who was a letter-carrier, continued his employment during the treatment. Dr. Hill has also used this agent as an inhalation in follicular tonsillitis and postnasal catarrh, with most satisfactory results. The most striking benefit was obtained in a severe case of cystitis, due to long standing resilient stricture, by injection of an eight-grain solution morning and evening, after drawing off the urine. Before beginning this treatment, the patient had frequently to get up as often as thirteen times in a night to pass urine; on the first night after injection this was reduced to seven times, next night to four times, and next night to twice. The urine, which at first was so thick and tenacious that it adhered to the side of the vessel when inverted, became clear, and threw down no sediment. The injections were made through a No. 2 flexible catheter.

5. *Margery on the Medicinal Uses of Wattle Bark*.—Dr. S. Margery (*Chemist and Druggist*) says that an infusion of a drachm of the bark in two-thirds of a breakfast-cupful of boiling water, infused one or two hours, given in doses of a teaspoonful every half-hour, is a valuable remedy in infantile diarrhoea, two or three doses affording relief. In dysentery its value is not so marked. In 'sore eyes', catarrhal ophthalmia, it is a favourite and successful country remedy. Two drachms of the tincture mixed with an ounce of glycerine make an useful application for discharge from the ears, for chapped lips, sore nipples, and slight fissures of various kinds. This forms a good substitute for glycerine and tannic acid. The bark yields a good gargle for relaxed throat. Wattle bark is derived from *Acacia pycnantha* Benth., a native of Australia. The gum is used internally for piles, and in veterinary or farriers' practice for wounds and raw shoulders.

6. *Ceresoli on a New Vehicle for External Application*.—According to Dr. P. Ceresoli of Padua (*Rep. de Pharm.*), fatty substances obstruct transpiration by stopping the pores of the skin. A solution of animal soap in alcohol of 95 per cent. serves well for frictions of potassium iodide, chloroform, belladonna extract, laudanum, etc. A solution of 116 parts of soap in 800 parts of alcohol should be kept for dispensing with tinctures. 120 parts of iodide of potas-

sium may be dissolved in 800 parts of alcohol, and 90 parts of soap added.

7. *Tedenat on Phosphate of Zinc*.—M. Tedenat (*Montpellier Medical, and Bull. Gén. de Thérap.*, May 15th, 1880) usually employs this salt of zinc in preference to the nitrate, chiefly on account of its greater insolubility in the acid juices of the stomach. Its action as a remedy in diarrhoea is the same as that of the nitrate, but the dose is less—1 to 2 grammes. It may be given in precisely the same way as the nitrate.

8. *De Renzi on the Treatment of Bright's Disease*.—In the medical clinic of Genoa during the scholastic year 1877-8 (Virchow's *Archiv*, Band 80, Heft 3), the quantity of urine and albumen, the other chief phenomena, and the influence of various methods of treatment, were ascertained in six cases of Bright's disease. For a certain number of days a fixed method of treatment was adopted, and then a change was made in another subsequent number in favour of another method, in order in this way to study the activity of the various modes of treatment. Professor De Renzi arrived at the following conclusions. 1. When chronic Bright's disease is left entirely without treatment, in general no improvement is shown; hence this must be excluded from the category of those diseases which in many cases end in spontaneous recovery. In the first days after entering the hospital, or when the treatment is purposely left off, the patients show a considerable quantity of albumen; this rule has, however, some exceptions which have not up to the present time been well explained. 2. Fuchsin, which has lately been recommended in the treatment of Bright's disease, produces a remarkable diminution in the quantity of albumen. It was employed in two forms: dissolved in water, or, mixed with a suitable extract, in pills of 2½ centigrammes each. As, however, the strong coloration of the infusion of fuchsin in water is somewhat repulsive, Dr. De Renzi found it preferable to administer it in the pill form, and to this he has adhered in his latest prescriptions. 3. The daily dose of fuchsin may be much greater than that in which it has hitherto been recommended in the treatment of Bright's disease. Dr. De Renzi generally began with a very small dose of 5 centigrammes (3⁄8 grain), raising it to 25 centigrammes (3⁄8 grain), to be taken in twenty-four hours. A considerable physiological action on the principal functions of the body was observed. According to the dose of fuchsin, the urine began sooner or later to show a red colour, which maintained itself throughout the treatment. 4. The urine in Bright's disease often exhibits a great deal of mucus. Fuchsin is very useful against this complication, as, in a short time, it causes the complete disappearance of the mucus from the urine. 5. The mucous membrane of the digestive tract is deeply coloured by fuchsin, and the blood-plasma undergoes considerable coloration. In two cases, the quantity of hæmoglobin and the chromometric state of the blood were examined with Bizzozero's instrument, with the following results:—*Maria Molinari*: Cytometric state, 160; Hæmoglobin, 68.7; Chromometric state, 175. *Theresia Gabella*: Cytometric state, 115; Hæmoglobin, 29.7; Chromometric state, 112. It is evident that the increased intensity of colour is not to be ascribed to the increase of hæmoglobin, but rather to the increase of the fuchsin in the blood. 6. When fuchsin does not pass into the urine, this is an indication of an organic disturbance which must not be neglected. In these cases, it is of no use in the treatment of albuminuria. 7. Rest

of the patient in bed is a very important means of diminishing the albuminuria in Bright's disease. In a patient, *Vittorio Rossi*, complete rest in bed, together with milk-diet, brought about the greatest diminution of the albumen in the urine. Dr. De Renzi was several times able to ascertain that unusually active movement of the person had a dangerous effect in Bright's disease. 8. Apomorphia was in general well tolerated; and Dr. De Renzi has ordered it in larger doses than usual (viz., 5 to 6 centigrammes daily) without causing the least disturbance. In one case, this medicine considerably improved the condition of the patient.

9. *Antidotes*.—The following collection of antidotes is taken from the *Allgemeine Wiener Medizinische Zeitung*.—*Morphia*. Sulphate of copper, 1 gramme; distilled water, 40 grammes, for an emetic; half to be taken at once and the remainder in five minutes, if necessary. To be followed by strong coffee, and then every five minutes by tablespoonful doses of a mixture made by dissolving 4 grammes of tannic acid in 50 grammes of simple syrup.—*Opium*. As for Morphia.—*Veratria*. As for Morphia.—*Savine*. As for Morphia.—*Fungus-poisoning*. As for Morphia.—*Stramonium*. As for Opium. May be followed by a hypodermic injection of Morphia.—*Nicotine*. For the sickness resulting from tobacco-smoking, vinegar, 50 grammes; simple syrup, 50 grammes; water, 200 grammes; half to be taken at once, and then a tablespoonful every five minutes. For accidental poisoning by nicotine, same as for Morphia. Also tannic acid, 4 grammes; syrup, 50 grammes; distilled water, 200 grammes; a tablespoonful every five minutes.—*Phosphorus*. Sulphate of copper, 1 gramme; distilled water, 40 grammes; half to be taken at once, the rest in five minutes, if necessary. Then oil of turpentine, 30 grammes; white and yolk of two eggs; simple syrup, 50 grammes; peppermint water, 250 grammes, for an emulsion, to be well shaken; one tablespoonful every half hour until a fourth part has been taken, and then a tablespoonful every hour.—*Burns by Phosphorus*. Nitrate of silver, 2 grammes; distilled water, 20 grammes; to be used as a lotion.—*Petroleum*. Oily and mucilaginous drinks to be taken frequently.—*Lunar Caustic*. Common salt, 20 grammes; water, 300 grammes; half to be taken at once, then a tablespoonful every half hour with oily mucilaginous drinks.—*Strychnia*. Tannic acid, 3 grammes; syrup of marsh-mallow, 60 grammes; distilled water, 140 grammes; a tablespoonful every five minutes. Then chloral-hydrate, 4 grammes; distilled water, 100 grammes; a tablespoonful every half hour.—*Sausage Poisoning, and Poisoning by Decomposing Meat*. Sulphate of copper 1 gramme; distilled water, 40 grammes, for an emetic; half to be taken at once, and the remainder in five minutes, if necessary. With this may be given ether, 2 grammes; tincture of opium, 10 drops; distilled water, 150 grammes; a tablespoonful every half hour.—*Ergot*. As for Sausage-poisoning.

WILLIAM MURRELL, M.D.

10. *Chirone and Testa on the Physiological Action of Picrotoxine*.—The authors (*Annali Universali di Medicina e Chirurgia*, April 1880), after describing the physical characters and mode of preparation of this alkaloid, give the results obtained from a series of sixty experiments. The most important conclusions arrived at are the following. 1. Picrotoxine is capable of causing a true artificial epilepsy. 2. The epilepsy so induced is independent of the psychomotor centres, inasmuch as it is most intense after the removal of those centres. 3. Picrotoxine acts

primarily on the bulb and on the commissural fibres between the cerebral and spinal centres, and secondarily on the spinal centres themselves. 4. It demonstrates the existence of a functional antagonism between the psychomotor and motor centres of the bulb and spinal chord. 5. The convulsive movements of the limbs induced by picrotoxine depend primarily upon the action of the drug on the bulb, which is thence propagated to the spinal marrow, and secondarily on its direct action on the spinal centres. 6. In frogs the influence on the spinal functions is more marked than upon the cerebral, while in dogs and the higher animals the cerebral motor centres are the most acted upon. 7. By cinchonoidine an epilepsy of cerebral, by picrotoxine an epilepsy of spinal origin, can be induced.

LITTON FORBES.

11. *Pick on the Therapeutic use of Pilocarpine in Skin-Diseases*.—In the *St. Petersburg Medic. Wochenschrift* of 19th July, appears a notice of the results obtained by Professor Pick from the use, over a space of two-and-a-half years, of pilocarpine and its preparations in prurigo, psoriasis, eczema, pruritus, urticaria chronica, alopecia areata, trichoptilosis, alopecia pityrodes, acne, hyperidrosis, pemphigus chronicus, and lichen exsudativus, *i.e.*, in all skin-affections where the secretion of sweat is more or less altered. Small doses of one-sixth of a grain in solution were ordered twice a day, one to two hours after food. Perspiration followed generally four or five minutes afterwards. After several weeks' use, unless intermitted, the dose had to be increased. The skin became softer and more pliable, scaldiness diminished, and the hair was less brittle. The use of the remedy even for months in no way disturbed the general health. In 32 cases of prurigo the tormenting itchiness disappeared, and the relapses were somewhat delayed; while, again, in 25 cases of psoriasis no effect was seen. In two cases of pruritus senilis, and one of urticaria, a cure was accomplished. In eczema, the result was not decided. In ten cases of alopecia pityrodes, good results followed; while in four cases of alopecia areata, no decisive result was obtained.

JAMES ANDERSON, M.D.

12. *Massiah on a Mode of using Nitric Acid as a Caustic*.—In the *British Medical Journal*, July 1880, p. 197, Mr. C. H. Massiah suggests a convenient mode of applying nitric acid to naevi and other parts where its caustic powers require careful limitation. The idea was suggested by the capillary tubes holding the acid in the pocket urinary cases now generally used. By breaking off the ends of an hermetically sealed tube filled with the acid, it can be easily applied to a limited space, the acid being prevented from running by a little grease applied to the end pressed on to the naevus or other part. To drive the acid to the end of the tube, atmospheric pressure may be applied either by the mouth or by an elastic ball and pipe. After use, the tube may be again sealed and serve for several applications.

13. *Spender on Movement as a Therapeutic Agent*.—Dr. Spender, in some valuable remarks upon the treatment of joint-disease, in the *British Medical Journal*, August 1880, p. 205, warns against a too rigid adherence to Mr. Hilton's valuable advice regarding rest. Surgical rest may be continued too long, as most of us are frequently called upon to notice, and it is these cases that give so much scope to the 'bone-setting' fraternity. There is a time for motion as well as a time for rest. This seems to be the key of the new and important devices of Dr.

Sayre and others; prolonged pressure without prolonged rest. Dr. Spender gives clear directions for shampooing (or massage) of weak muscles for moving joints, and strongly recommends muscle-rubbing in infantile paralysis. 'Rest and movement are complementary to each other, both in physiology and in therapeutics. The analogy is as close as possible. Alternation of work and rest is the law of the human organism in health, and health could not be preserved without it. Disease may call for the prolongation of the element of rest, but it is a mark of clinical insight to discover when the disease ends, or when sufficient health returns to justify the usual alternate rest and work. Continued work without rest could not be; rest continued too long is not only conceivable, but it is the object of this paper to illustrate it as one of the present dangers of therapeutic surgery.'

14. *Snell on Acupuncture.*—In the *Medical Times and Gazette*, June 1880, is an abstract of a paper on this interesting and important subject, originally read by Mr. Snell before the Sheffield Medico-Chirurgical Society. Acupuncture is now seldom used in England, but in times past it was much thought of, as may be seen by reference to Section 166: 4 *Medical Digest*. Five cases are given where, after injury, the shoulder-muscles refused to do their work properly; one or two needles plunged in almost immediately converted painful joints into pleasant working companions. The *modus operandi* of acupuncture is a subject of dispute; some thinking that the puncture evacuates the *materies morbi*: others that it acts 'as a counterirritant or stimulant. Mr. Snell thinks that the moral effect has had much to do with it, and wonders that the remedy is not more used, as it deserves to be. [Since reading Mr. Snell's paper, in a case of locomotor ataxy, where the patient was racked with pain in the foot, which had long resisted other means, the reporter plunged in an acupuncture-needle with the happiest results, no return of the pain having been noted for several weeks.—*Rep.*]

15. *Ringer and Murrell on the use of Glycerine in Flatulence, Acidity, and Pyrosis.*—Glycerine has in the last few years been much, and justly so, recommended in the treatment of hæmorrhoidal affections. In the *Lancet*, July 1880, p. 6, it is now brought forward as a valuable agent in various forms of dyspepsia. Its use in these cases was entered upon after its action in preventing milk from turning sour had been noticed by an old dyspeptic, who argued, 'If it so prevent milk from turning sour, why should it not prevent the same in my stomach?' The result fully bore out his theory. From experiments, it is found that glycerine prevents the decomposition of nitrogenous matters, a two per cent. solution retarding it for twenty-four hours; 10 per cent. for five days. Meat after several months' immersion is as sweet as when fresh killed. Glycerine does not hinder the action of pepsin and hydrochloric acid in digestion; hence, whilst it prevents the formation of wind and acidity, probably by checking fermentation, it in no way hinders digestion. It may be given in any form, and either with, before, or after meals.

16. *Mackesy on Pilocarpine in Asthma.*—In the *British Medical Journal*, August 1880, p. 208, Mr. W. L. Mackesy reports a case of asthma, treated according to Dr. Berkart's advice (*vide* LONDON MEDICAL RECORD, August 1880, p. 317). One-fourth of a grain (Savory and Moore's discs) was injected in a man aged fifty years, who had long suffered with asthma, and was about resigning his post on account of his inability to obtain any relief. He spent an unusually quiet night after the injection. Next day, and every

day the following week, one-third of a grain was injected with the most beneficial results. He retained his post as prison warder, and is now taking arsenic, with an occasional injection of pilocarpine.

17. *Harris on an Attack of Ague while taking Arsenic for Skin-Disease.*—Mr. G. Harris (*British Medical Journal*, August, p. 201), treating a man, aged 20, suffering with acne rosacea, with large doses of arsenic, was interested to see him attacked with a well-marked ague at the time when he was taking, thrice daily, eight minims of Fowler's solution. The question is asked, if the people of Styria have any special immunity from ordinary ague, or the contrary?

18. *Munro on Watching the Pulse during the Administration of Chloroform.*—In the *British Medical Journal*, August 1880, p. 240, Dr. W. Munro strenuously combats the dicta laid down by 'Anglo-Scot' (*vide* LONDON MEDICAL RECORD, August 1880, p. 318), viz., that the pulse need not be watched, but only the respiration; also, that it was best to give the chloroform very slowly, and diluted so as to saturate the whole of the circulatory fluid. Dr. Munro believes the rapid mode of administration to be the best, and then, in case of accident, as the heart's action invariably ceased before respiration, it was extremely easy, in the majority of cases, to restore animation, whereas, if respiration stopped also, then the chances of recovery were infinitely less. In order to protect the heart's action against chloroform, Dr. Munro is in the habit of administering a good dose of atropine subcutaneously, an hour before giving the chloroform. He desires to know whether others have adopted the same method, and, if so, with what results. RICHARD NEALE, M.D.

ELECTRO-THERAPEUTICS.

RECENT PAPERS.

1. DE WATTEVILLE.—The Conditions of Unipolar Stimulation in Physiology and Therapeutics. (*Brain*, No. ix, 1880.)
2. DE WATTEVILLE.—On Facial Palsy, with Special Reference to its Prognosis. (*Practitioner*, May 1880.)
3. DE WATTEVILLE.—The Pathogeny of Lead-Paralysis. (*Lancet*, July 1880.)
4. MENDELSSOHN.—Clinical Researches on the Period of Latent Muscular Excitation in Different Nervous Diseases. (*Archives de Physiologie*, 1880, No. 9.)
5. PITRES and FRANÇOIS-FRANCK.—On the Contractions and Convulsions obtained by Stimulation of the Brain. (*Travaux du Laboratoire de M. Marey*, 1880, No. 10.)
6. EULENBURG.—On Galvano-Hypnotism. (*Wiener Klinik*, 1880, No. 3.)
7. RUMPF.—On Reflexes. (*Deutsche Medic. Wochenschrift*, 1880, No. 29.)
8. MÖBIUS.—On the Anodyne Influence of Electricity. (*Berlin Medic. Wochensh.*, 1880, No. 35.)
9. BERNHARDT.—A Contribution to the Question of Galvanometers. (*Centralblatt für Nervenheilkunde*, 1880, No. 9.)
10. REMAK.—On the same Subject. (*Ibid.*, No. 12.)
11. BERNHARDT.—Remarks on the Previous Paper. (*Ibid.*)
12. MULLER.—On the Graduation and Dosage of the Current in Electro-Diagnosis and Therapeutics. (*Memorabilien*, Band xxv, No. 7.)
13. MOSSDORF.—A Case of Aphthongia, or Spasm of the Hypoglossus. (*Centralblatt für Nervenheilkunde*, 1880, No. 1.)
14. NEFTTEL.—On Visceral Neuralgia. (*Archiv für Psychiatrie*, Band x, 575.)

15. NOTHNAGEL.—On the Effects of Lightning on the Animal Organism. (*Virchow's Archiv*, May 1880.)
16. KAST.—Notes on Lead-Paralysis. (*Centralblatt für Nervenheilkunde*, 1880, No. 8.)
17. POPOFF.—Abdominal Faradisation in Ascites. (*Vratch*, 1880, No. 22.)
18. BOUDET.—Two Cases of Intestinal Occlusion Treated and Cured by Electricity. (*Progrès Médical*, August 1880.)
19. KAHLER and PICK.—A Rare Symptom in Spinal Disease. (*Archiv für Psychiatrie*, Band x, Heft 2, 340.)
20. KOBNER.—On the Phenomena of Transfer. (*Breslauer Aertliche Zeitung*, 1880, No. 5.)
21. KATISCHEFF.—Influence of Faradisation of the Sympathetic Nerve on the Contraction of the Blood-Vessels. (*St. Petersburger Medic. Wochenschrift*, 1880, No. 5.)
22. STOLNIKOFF.—The Effects of Electrification of the Liver on the Quantity of Urea Excreted. (*Ibid.*, 1879, No. 45.)
23. SIGRIST.—Influence of Electricity in the Production of Urea. (*Centralblatt für Nervenheilkunde*, March 1880.)
24. BLOCH.—On the Differences between Electrical and Tactile Sensations. (*Comptes Rendus de la Société de Biologie*, 1879.)
25. TSCHERBATSCHOFF.—On the Effects of the Galvanic Current upon the Healthy Eye. (*Thesis*, Bern, 1880.)
26. EVETZKY.—On the Nature of Cataract, and on its Treatment with Electricity. (*New York Medical Journal*, July 1880.)
27. GORDON.—On the Influence of Faradisation on Excessive Sweating. (*Vratch*, 1880, No. 20.)
28. SCHRÖDER.—Faradisation of the Spleen in Intermittent Fever. (*St. Petersburger Medic. Wochenschrift*, 1879, No. 40.)
29. STRAUS.—On a New Diagnostic Sign in Facial Paralysis. (*Gazette Médicale de Paris*, 1880, Nos. 2-4.)
30. HAMILTON.—The Physiological Treatment of Wry-Neck. (*New York Medical Journal*, Feb. 1880.)
31. SEGUIN.—Intrabuccal Method of Faradising the Lower Facial Muscles. (*Archives of Medicine*, Feb. 1880.)
32. CARRERAS-ARAGO.—On a Case of Strychnia Poisoning, with Spasms of the Thoracic Muscles, relieved by the Electro-Magnetic Current. (*Centralblatt für Augenheilkunde*, 1880, No. iv.)
33. MIGNECO.—A Case of Chronic Neuralgia Cured by Electricity. (*Giornale di Med. Milit.*, 1879, No. 27.)
34. MARAGLIANO.—Improvement Produced in a Case of Progressive Facial Hemiatrophy by Faradisation. (*Salute*, Genoa, 1879.)
35. CALDWELL.—Electricity in Medicine and Surgery, with Cases to Illustrate. (*Gaillard's Medical Journal*, 1880.)
36. CLEMENTS.—The Influence of the Induced Current in Promoting Absorption. (*Allgemeine Medicin.-Chir. Zeitung*, 1880, p. 169.)
37. DAUBRAEVA.—The Effects of the Electric Currents. (*Allgemeine Wiener Medizin. Zeitung*, 1880.)
38. WILSON.—Sciatica Relieved by Galvanism. (*Atlanta Med. and Surg. Journal*, 1879-80.)
39. MAGNAN.—On the Action of the Galvanic Current in the Treatment of Hemianæsthesia. (*Comptes Rendu de la Soc. de Biologie*, 1880, tome iv, p. 219.)
40. BEARD.—The Dosage of Electricity. (*Chicago Journal of Nervous and Mental Diseases*, 1880.)
41. BRAUN.—The Treatment of Sciatica by Electricity and Cupping. (*Courier Médical*, 1880, No. 30.)
42. FRIEDENREICH.—On the Treatment of Aphasia by Galvanism. (*Hospitals-Tidende*, 1879, p. 935.)
43. BERTRAM.—On the Attempts to Treat Hydrophobia by the Continuous Current. (*Tendido Cat.*, 1879, No. 244.)
44. MADER.—On an Inveterate Case of Trigeminal Neuralgia Unsuccessfully Treated by Electricity. (*Medicin.-Chir. Centralblatt*, 1879, No. 543.)
45. DESPLATS.—On the Diagnostic and Therapeutic Uses of Electricity. (Lille, 1879.)

1. *De Watteville on the Conditions of Unipolar Stimulation in Physiology and Therapeutics.*—In a paper on 'the unipolar method' of electrical stimulation (*Brain*, No. ix, 1880) Mr. de Watteville gives a historical sketch of the question, and attempts to solve it on a purely physical basis. Electro-therapeutists and some physiologists continue to talk of the effects of closure and opening of currents, as if they depended on the direction in which they flow. The difference between the physiological and therapeutical methods of testing is that the former is 'bipolar', the latter 'unipolar'; in this sense, that in the one the two electrodes are applied to the nerve, in the other only one. But this one pole is only apparent; there are in reality two poles acting on the nerve (which the author calls the virtual anode and cathode respectively) formed by the points of entrance and exit of the current into and from the nerve. It is impossible to eliminate one pole entirely, owing to the diffusion of the currents; if, for instance, we apply the anode over the ulnar nerve, we have indeed a virtual anode at the nerve, but we have also a virtual cathode in the immediate neighbourhood, formed by the emergence of the current from the nerve into the surrounding tissues. Now we know that (*ceteris paribus*) the activity of the poles is proportional to the density of the current at their point of application; therefore the apparition of A.C.C. and K.O.C. is readily accounted for by assuming it to occur when the density of the virtual pole of the opposite frame is sufficiently great to give rise to it. It is impossible to eliminate entirely the action of the virtual pole of the opposite nerve; hence all therapeutical systems based upon the systematic production of the anelectrotonus and catelectrotonus in this or that nerve must be imaginary. With reference to the historical development of the question, the author shows how Brenner's fundamental position had been anticipated by Chauveau and Baierlacher. The attempts to demonstrate the existence of electrotonus in the living subject have hitherto been very unsatisfactory, but that anelectrotonus cannot be obtained without a corresponding account of catelectrotonus is readily shown by the ready apparition of the anodal closure-contraction. We may note that none of the strictures passed upon the electrotonic system of treatment are addressed to the principles of electro-diagnosis, which is a valuable result of the unipolar system of stimulation.

2. *De Watteville on Facial Palsy.*—The author (*Practitioner*, May 1880) illustrates Erb's division of cases of facial palsy, in three groups or forms, according to the electro-diagnostic phenomena they yield. In the milder form the electrical reactions remain normal, or nearly so. In the severe form the electro-nervous irritability is lost, and the muscles display the phenomena of degenerative reaction to the galvanic current. In the 'middle' form the electro-nervous irritability is present, but the muscles react abnormally. Now these phenomena depend upon the amount of degeneration undergone by the tissue; and the time taken for a recovery being proportional to that amount, it is obvious that a fairly exact prognosis may be given in most cases as to the probable date of recovery. Experience has shown that in the mild form a return to health may be expected within a month; in the middle form, within two months; and in the severe, within four to six months. Of course these numbers are approximative; the forms of reaction run into one another, and transitional cases are often met with; recovery may also take place more quickly, or be delayed from

unknown causes, for months or even years. A knowledge of the nature of the pathological processes also shows what are the limits of therapeutic measures in facial paralysis. No amount of electrification will prevent the degeneration of muscle and nerve which characterises the severer forms. We can only assist nature and counteract possible causes of delay. Good results are often obtained in old cases, where what the author calls the 're-innervation' seems to be deficient.

3. *De Watteville on the Pathogeny of Lead-Palsy.*—Mr. De Watteville (*Lancet*, July 1880) concludes that plumbic wrist-drop has a spinal origin, the probable seat of the lesion being at the origin of the seventh cervical root. If this view be correct it would be rational, as Remak has also suggested, to direct part of the electrical treatment—the only one of much value in these cases—to the *locus morbi*, with a view of acting on the nutrition of the spinal cord. For instance, a metallic plate connected with one of the poles may be held on the nape of the neck, whilst the muscles and nerves are stimulated peripherally with the other. In this way, both indications would be fulfilled simultaneously.

4. *Mendelssohn on the Period of Latent Muscular Excitation in Different Nervous Diseases.*—This paper (*Archives de Physiologie*, No. 2, 1880) is a continuation of the author's previous communication (*Travaux du Laboratoire de M. Marey*, 1880), in which he had given the results obtained by him in the physiological laboratory from experiments on frogs and healthy human subjects. The main conclusion which he had reached in the latter was that the time of latent excitation is not constant, but varies even in the same subject, with variable conditions of nutrition, rest, amplitude of muscular curve, strength of exciting current, etc. In the frog it averages '008 second; in man, '007. Generally speaking, the duration of latent stimulation bears an inverse ratio to the muscular excitability and contractility. Experiments in diseased conditions bear out these physiological data. There is a diminution of the lost time in hemiplegic late rigidity, an increase in hemiplegic muscular atrophy, and so on in the whole list of diseases with tendency either to contracture or to atrophy. The author found considerable variations prevail in hysteria, but noted that shortly before an attack the lost time was shorter. In artificial catalepsy, it sunk to '001 second. [Waller (*Brain*, No. 10, 1880), in a recent paper, assumes the time of latent contraction of healthy human muscle to be '02 second, and gives tracings in support of his view. It will be remembered that Helmholtz (1852) had estimated the same period (in frogs) at '01 second, and that his determination has since been generally accepted and reproduced in text-books.—*Ref.*]

5. *Pitres and François-Franck on the Contractions and Convulsions Obtained by Stimulations of the Brain.*—The authors (*Travaux du Laboratoire de M. Marey*, 1880) have studied graphically the contractions resulting from the stimulation of the brain. A single electric shock produces, when sent through the motor centre, a single contraction as when the nerve is stimulated. A series of shocks (about forty-five in a second in the dog) produce a permanent contraction. Single shocks, individually too weak to produce contraction, by summation call forth a spasm. Strong stimulation of one hemisphere calls forth contraction on both sides of the body. Stronger currents are necessary to stimulate the white matter than the grey; but the time of re-

action is shorter in the former. Tetanus may be obtained by rapid stimulations of the internal capsule (sixty a second), but does not show the same fusion of the individual contractions seen elsewhere.

6. *Eulenburg on Galvano-Hypnotism.*—Professor Eulenburg (*Wiener Klinik*, No. 3, 1880) shows that in favourable subjects the supposed hypnotic effects of electricity may be due to many other causes. He describes one case, however, where the galvanic current clearly threw the patient into a hypnotic condition. She was hysterical, with left hemianæsthesia, and was subject to fits of lethargy. The left hemisphere and nerves of special sense were unexcitable by the current; a condition, however, which yielded to treatment and gave place to a galvanic hyperæsthesia. At the same time the passage of the current through the head (negative pole to neck, and bifurcated positive to mastoid processes) was noticed, if kept up for about five minutes, to produce a condition of hypnotism, into which the patient sank not gradually but quite suddenly. Consciousness was quite extinct; some of the cerebral reflexes were much diminished; and gentle stroking of the skin, of the hand for instance, was followed with muscular rigidity of the part, gradually extending over the whole body. The usual means sufficed to arouse her, but a long time elapsed before she had recovered fully her senses. Active continuation of passively induced movements was not observed in this case.

7. *Rumpf on Reflexes.*—Rumpf (*Deutsche Medical Wochenschrift*, 1880, No. 29) describes experiments made on frogs to ascertain the vaso-motor effects of electrification of the sciatic nerve in the opposite leg. Weak faradisation contracts the vessels on the same side but dilates them on the other, for a few seconds; an opposite modification then sets in on each side, which lasts longer. Moderate faradisation produces the same effects, but the first modification is of shorter duration. Strong faradisation produces a momentary dilatation on the excited side, and a momentary contraction and arrest on the opposite, followed by a great increase of the circulation. Galvanic stimulation of the nerve did not yield such definite results. Weak and moderate currents, with the cathode to the foot, produced dilatation on the excited side, contraction on the other. The opposite took place when the anode was used. Oscillations ensued; then hyperæmia on the side existed (with either pole); and closures of the current were followed on the opposite side with marked stasis.

8. *Möbius on the Anodyne Effects of Electricity.*—Möbius (*Berliner Klin. Wochenschrift*, 1880, No. 35) attempts to give a *rationale* of the remarkable effects obtained from this agent in allaying the pain in neuralgia proper, and in numerous other morbid conditions. Numerous authenticated cases, and the daily experience of those who are in the habit of using electricity, show that the pains arising from a variety of organic lesions are frequently allayed by electrification; such, for instance, as those met with in caries of the spine, meningitis, articular and muscular rheumatism, dental caries, uterine derangements, and those known as 'headaches', the shooting pains of ataxy, etc. In all these the current acts on the symptom pain only. The author thinks it justifiable to argue from the fact that relief is obtained in a number of dissimilar cases, to the existence of a common feature in those cases. He thinks that electricity relieves pain only inasmuch as it is purely neuralgic, depending upon a molecular condition of the nerve set up by a neighbouring lesion (or idiopathic in the case of true neuralgia).

The current, therefore, is a diagnostic as well as a therapeutic agent in the case of pain. As to giving an explanation of how electricity acts in neuralgia, this is impossible for the present.

9. *Bernhardt on Galvanometers.*—Bernhardt (*Centralblatt für Nervenheilkunde*, No. 9) returns to the subject of current measurements previously introduced by Hesse (see LONDON MEDICAL RECORD, March 1880), and fully approves the proposition made by De Watteville of adopting the milliweber as the medical unit. He further shows by what a simple method any of the usual galvanometers may be converted into an absolute instrument. In his second contribution he discusses some of Remak's objections, which are further answered by De Watteville (*Centralblatt für Nervenheilkunde*, No. 15).

12. *Müller on the Graduation and Dosage of the Electric Current in Diagnosis and Therapeutics.*—Müller (*Memorabilien*, Band xxv, Heft 7) takes the same view as Bernhardt and Hesse, and warmly commends the universal adoption of the milliweber for medical usage.

13. *Mossdorf on a Case of Aphthongia, or Spasm of the Hypoglossus.*—Dr. Mossdorf (*Centralblatt für Nervenheilkunde*, No. 1, 1880) relates an interesting case of spasm in the domain of the hypoglossus (with associated spasms of some respiratory muscles), in which the ordinary treatment for stammering had failed to produce any permanent good. Galvanisation of the head and phrenic nerves was persevered in for two months without any result, but the application of strong galvanic currents with the anode at the occiput, and the cathode labile along the spine, produced within a week a marked improvement. Several short courses of this treatment at intervals have brought about what seems to be a permanent cure. The author contrasts this result with that obtained in a case of stammering from spasm produced by irritation of the right facial nerve after a blow. In this case faradisation and galvanisation peripherally applied failed, but the continuous current sent through the cortical centres effected a speedy cure.

14. *Neftel on Visceral Neuralgia.*—Dr. Neftel (*Archiv für Psychiatrie und Nervenheilkunde*, Band x, p. 575) describes several cases of rectovesical and uterine neuralgia, in which every kind of treatment, including that of the organic lesion which was supposed to be the cause of the symptoms, had proved useless. Starting from the hypothesis of a nutritive disturbance of the centres in the spinal cord, he tried the effects of the galvanic current, centrally as well as peripherally applied, with the most happy results. His method in cases of severe dysmenorrhœa is to apply a large electrode (anode) over the genito-spinal centre (Budge's), and close a current of 15 to 20 elements (Daniell's), with a plate above the pubes. A few voltaic alternations are slowly made; then the anode is passed up and down the spine (strong pressure must be exerted), whilst the current may be increased to thirty elements. The same process is repeated whilst the cathode rests upon each inguinal region successively. Relief almost invariably follows such an application. Should this not be the case, higher strengths of current are to be used. A warm drink and sharp walk are advisable after the sitting, which is to be repeated daily during the period. In the time between the monthly paroxysms a milder galvanic course is advantageously pursued towards the accomplishment of an actual cure. Perhaps much depends on the excellent results obtained by the use of a similar

method in cases of other visceral neuralgiæ, of congestive and chronic inflammations of the pelvic organs, and also of the central nervous system, on the stimulation of the splanchnic nerves, and consequent extensive vaso-motor effects in the abdominal and pelvic viscera. Dr. Neftel strongly urges the use of galvanism in such cases, and supports his case with good instances. He concludes his paper by showing how a latent malarial cachexia may be unexpectedly brought to light by galvanic applications.

15. *Nothnagel on the Effects of the Lightning-Stroke on the Animal Organism.*—Professor Nothnagel relates (*Virchow's Archiv*, May 1880) some experiments he made on rabbits with the Leyden jar. He found that sufficiently powerful sparks produced a localised anæsthesia of transient nature. The extent of the lesion was proportional to the density of the electrical fluid, that is, to its quantity divided by the diameter of the limb. At the same time the motor fibres were temporarily paralysed, the duration of the paralysis being about the same as that of the loss of sensation. The faradic excitability of the paralysed nerves was diminished. The author next describes a case where a man was struck by lightning on his right hand, which became completely paralysed and anæsthetic, and remained so for ten weeks. The recovery was sudden and rapid; in two days the hand became quite well again, and remained so for six years, when suddenly both sensation and motion disappeared from it. Three months after this occurrence, he was admitted into the hospital. He was submitted to the usual electrotherapeutic measures during a few days, but without the slightest benefit. One day, however, it occurred to Professor Nothnagel, who was then experimenting with the magnet on a case of hemi-anæsthesia, to apply the latter to the paralysed hand. His astonishment was great on finding that within three-quarters of an hour sensation and motility were returning. Further applications of the magnet were followed by a complete recovery, and a few days afterwards the patient resumed his work. No transfer was observed.

16. *Kast on Lead-Paralysis.*—Kast (*Centralblatt für Nervenheilkunde*, April 1880) has made some experiments with a view of testing the accuracy of Mason's statement (*American Journal of Med. Sciences*, 1877). The latter said that the electrical reactions in frogs dipped in weak solutions of lead-salts proved the presence of degenerative atrophy in their nerves and muscles. The author's results were in direct opposition to this; in no case could he find any trace of the reaction of degeneration. Kast adds a few remarks on a case of saturnism, in which the muscles of the left thenar, though functionally almost normal, did not react to faradism directly or indirectly applied. The anodal closure contraction was obtained much more readily than the cathodal, and presented the typical sluggishness and persistence noticed in cases of degenerative atrophy.

17. *Popoff on Abdominal Faradisation in Ascites.*—Popoff (*Vratch*, 1880, No. 22) describes a case of ascites, with enlargement of the spleen, treated by faradisation of the abdominal muscles and of the spleen. He gives a table showing the effects of the treatment on the quantity of urine excreted. This rose on the first day from 1,200 to 3,500 cubic centimètres, and was always much greater on the days when the patient was faradised. The circumference of the abdomen steadily diminished from 95 to 80 centimètres, whilst the size of the spleen fell from 10 × 8 to 7 × 5 centimètres.

18. *Boulet on Two Cases of Intestinal Occlusion Treated and Cured by Electricity.*—Boulet de Paris (*Progrès Médical*, August 1880) gives two cases of intestinal obstruction successfully treated by electricity. In the first, the patient, aged 15, had just recovered from an attack of peritonitis, when she was suddenly seized with all the symptoms of obstruction, due probably to the entanglement of a loop among the freshly formed adhesions. The usual means having failed to give relief, the faradic current persistently applied externally was tried, but without any result. The patient was in a very critical condition, bringing up everything that was given her by the stomach. During the next forty hours the continuous current was applied about every three hours for half to one hour at a time; the negative pole was in the rectum, and with the positive the abdominal walls were dabbled so as to produce interruptions. During these applications the intestines were noticed to be the seat of lively muscular contractions, and eventually desire of going to stool was experienced. At last an evacuation was obtained, and from this moment convalescence was established. In the second case, the author had to do with fecal accumulation due to habitual constipation from deficiency of muscular power. Electricity, in the shape of internal galvanisation as above, and abdominal faradisation, was resorted to as a last resource. The result was most gratifying. From the first, intestinal contractions were obtained, and on repetition large quantities of excreta were expelled. The author remarks that he has collected fourteen other cases where electricity has proved useful in obstruction. He shows that the superiority of the galvanic current, where paralysis of the intestine exists, is due to the fact that it stimulates much more powerfully the unstriated muscular fibres. The interruptions must be slow, because the contractions of these fibres are not sudden but gradual. Care must be taken not to electrolyse the rectum by using a moderate current. The author used from 8 to 14 Leclanché's.

19. *Kahler and Pick on a Rare Symptom of Spinal Disease.*—The authors refer (*Archiv für Psychiatrie*, Band x, Heft 2, page 340) to the previous observations of Seigmüller (*Ibid.*, Band vi, p. 702; *Deut. Med. Wochenschrift*, 1876; and *Jahrb. für Kinderheilkunde*, 1878), and of Bernhardt (abstract in LONDON MEDICAL RECORD, March 1880), who had described in cases of doubtful nature a symptom which they found in two cases of well-marked spinal disease, viz., poliomyelitis and pachymeningitis. In both cases, a momentary stimulation of the affected muscles was followed by a persistent tonic contraction of fifteen to sixty seconds' duration. Weak faradisation produced an equally persistent spasm of a circumscribed portion of the muscles.

20. *Köbner on the Phenomena of Transfer.*—Köbner (*Breslauer Artz. Zeitung*, 1880, No. 5) describes three cases of ordinary and sick headache, in which the electrical hand was observed to mitigate the pain in the affected side, whilst similar pain appeared in the opposite half of the head. This phenomenon, he thinks, is related to that of transfer.

21. *Katitschew on the Influence of the Faradisation of the Sympathetic Nerve on the Contraction of the Blood-Vessels.*—The author (*St. Petersburger Medicin. Wochenschrift*, 1880, No. 5) finds that faradisation of the neck over the course of the sympathetic produces pallor of the membrana tympani, in cases of inflammation of this membrane. Subjectively there are noticed diminution of the pain and tinnitus, and

increased power of hearing. These effects persist for some hours after a ten minutes' application. Makes and breaks of the galvanic current have similar effects.

22. *Stolnikoff on the Effects of Electrification of the Liver on the Quantity of Urea Excreted.*—Stolnikoff (*St. Petersburger Med. Wochenschrift*, 1879, No. 45) says that electrification of the liver increases the quantity of urea excreted, whether it be practised percutaneously (as in a living man) or directly. In a dog, for instance, it was found to produce an increase of from thirty to fifty-eight parts in a day. The author found also that small pieces of liver (from the living animal) placed in defibrinated blood, and exposed to the induction-current during an hour, give off notable quantities of urea.

23. *Sigrist on the Influence of Electricity in the Production of Urea.*—Sigrist (*Centralblatt für Nervenheilkunde*, March 1880) tried the effect of electricity on the liver, and came to similar conclusions. Seven healthy individuals were put on a milk-diet for several days; and when the variations in the quantity of urea excreted had been reduced to a minimum, faradisation and galvanisation of the liver were performed in such a way as to avoid contractions of the abdominal muscles. Not only was the quantity of urea increased in the ratio of $1\frac{1}{2}$ to $2\frac{1}{2}$, but the number of red blood-corpuscles was notably augmented after each application. Controlling experiments, such as electrification of the spleen, abdomen, and spinal cord, led to negative results.

26. *Evetsky on the Nature of Cataract and its Treatment by Electricity.*—The treatment of cataract by electricity, as Dr. Evetsky says (*New York Medical Journal*, July 1880), is no new invention. Crusell, forty years ago, reported a series of successful cases, his method of treatment being electrolysis of the lens by means of a needle introduced into it. Since then a number of authors have mentioned cases in which the same method had been used. Since then external galvanisation has been resorted to successfully, and Nefel has lately recommended its use (*Virchow's Archiv*, vol. 79). The author here discusses the nature of cataract, and shows that the rationale of electric treatment rests upon three properties of the current: it stimulates the intra-ocular lymph-current, the capillary circulation, and the nerves of the eyeball. Electricity may thus be used, not only in the treatment but in the prophylaxis of cataract. It may also be of use in promoting the nutrition of the senile eye. He describes a case of rapidly advancing cataract where electrification certainly retarded the progress, and where the acuteness of vision was increased after each application. The method was to apply the positive pole to the neck, the negative to the closed eye, and gradually bring up the current to a moderate strength, allowing it to act for ten minutes daily.

27. *Gordon on the Influence of Faradisation over Excessive Perspiration.*—Under the impression that localised hyperidrosis depends upon some alteration of the peripheral nerves, Dr. Gordon (*Vratch*, 1880, No. 20) tested in such cases the sensibility of the affected spots, and found it diminished. He also found their temperature below normal, and tried the therapeutic effect of faradisation. He found it successful in several cases where the diminished sensibility and temperature returned to their normal point, and where the hyperidrosis disappeared, or at least was materially reduced. Several cases are adduced to show that these changes proceed *pari*

passu. The method used was dry faradisation for ten minutes with the wire brush.

28. *Schröder on Faradisation in Intermittent Fever*.—Schröder (*St. Petersburger Medicin. Wochenschrift*, 1879, No. 40), in forty-two cases of intermittent fever, some of which were old, and in most of which the usual medication had proved of little use, got almost uniform success by faradising the spleen. The method used was to hold an electrode *in situ* on the left hypochondrium, whilst the other was carried slowly along the edges of the enlarged spleen. An application of five minutes every day sufficed.

29. *Straus on a New Diagnostic Sign in Facial Paralysis*.—The author (*Gazette Médicale de Paris*, 1880, Nos. 2, 3, 4) finds a parallelism between the effects of pilocarpine on the paralysed side of the face and those of electricity. In central facial hemiplegia the electro-muscular irritability is normal, and the sudation artificially provoked appears on both sides at the same time; whereas, in cases where the lesion is situated on the course of the nerve, electro-contraction is diminished or lost, and sudation occurs later than on the sound side.

30. *Hamilton on Wryneck*.—The author (*New York Medical Journal*, Feb. 1880) thinks he has seen good results from the joint use of galvanism and faradism. A double electrode is applied to the back of the neck near the occipital bone, and an electrode held on each sterno-mastoid, at its origin from the clavicle. An 'ascending' faradic current is sent through the sound muscle, a 'descending' galvanic through the diseased one.

31. *Seguin on the Intrabuccal Method of Faradising the Lower Facial Muscles*.—Dr. Seguin (*Archives of Medicine*, Feb. 1880) recommends, when strong currents are necessary to produce contractions, to place one of the poles on the muscle inside the mouth. The application is less painful and more efficient.

32. *Carreras-Arago on a Case of Strychnia-poisoning, with Spasms of the Thoracic Muscles relieved by the Electro-Magnetic Current*.—Carreras-Arago (*Centrablatt für Augenheilkunde*, 1880, iv) relates a case of strychnia-poisoning through a hypodermic injection, in which the patient's life was placed in imminent danger through a tetanic contraction of the chest muscles. At this juncture a powerful electro-magnetic current was sent through the thorax; and, remarkably enough, the spasm ceased almost instantly; respiration and circulation became normal, and the patient's life was saved.

MEDICINE.

RECENT PAPERS.

1. *MACKENZIE*.—On Abnormally High Temperature. (*Medical Times and Gazette*, June 1880, p. 620.)

2. *NICHOLSON, BRINSLEY*.—On Malingering whilst under the Influence of Chloroform. (*Medical Times and Gazette*, July 1880, p. 35.)

3. *YEO, BURNEY*.—On Discharge of Gall-stones through the Abdominal Walls. (*Lancet*, August 1880, p. 203.)

4. *GLASGOW*.—Plastic Bronchitis. (*St. Louis Courier of Medicine*, February 1880.)

5. *GAREL*.—Sciatica caused by Aneurism of the Abdominal Aorta. (*L'Union Médicale*, p. 951.)

6. *GOLTDAMMER*.—Puncture in Pleural Effusions. (*Berl. Klin. Wochenschrift*, Nos. 19 and 20.)

7. *FÉRÉOL*.—On the Treatment of Cases of Intra-peritoneal Rupture of Hydatid Cysts. (*Le Progrès Méd.*, 1880, p. 426.)

8. *ZENKER*.—On the Pathogeny of Pericarditis.

9. *SWIATLOWSKY*.—On an Epidemic of Ergotism. (*St. Petersburg Med. Wochenschrift*, July 19, 1880.)

1. *Mackenzie on Abnormally High Temperature*.—In the *Medical Times and Gazette*, June 1880, p. 620, Dr. Mackenzie reports a case of a woman under his care, in which the thermometer registered 120.8 Fahr. in the axilla, without the patient presenting any symptoms corresponding to such an elevated temperature, and promises a paper explanatory of such paradoxical temperature after further study of this case. [For some time, the reporter has considered the possibility of making a self-registering thermometer, by which, when worn in the axilla, the temperature might be registered every half-hour or hour. A well-known photographer has been consulted, but at present the difficulties appear too great. The idea was that, by means of clockwork, the thermometer should be exposed to a sensitive sheet, illumined by an electric spark at stated times. Possibly others may perfect this crude idea.—*Rep.*]

2. *Nicholson on Malingering whilst under the Influence of Chloroform*.—In the *Medical Times and Gazette*, July 1880, p. 35, Dr. Brinsley Nicholson, under the paradoxical heading 'On Sensibility and Volition during Insensibility from Chloroform', brings forward three cases to illustrate his views. The first may be attributed to reflex action. It was a soldier who had dislocated his shoulder-joint. After five weeks, attempts were made to reduce it under chloroform, which, though perseveringly persisted in for half-an-hour, eventually failed, the deltoid being firmly contracted. Looking at the patient, still unconscious, five or ten minutes after all the assistants had left, Dr. Nicholson found the deltoid relaxed and flabby, and easily reduced the shoulder. In the second case, a soldier cut his thumb while strapping a razor on his arm. The severed tendon was stitched, and the wound quickly healed, leaving contraction or clawing of his fingers. Circumstances led to the belief that this 'clawing' was assumed. He was put under chloroform, and his clawed fingers gently and easily smoothed out. Looking at the other arm, Dr. Nicholson was amused to see two of the fingers curved at the tips. What had happened was evident: the orderly, in his anxiety to restrain movement, had handled the sound arm more roughly than Dr. Nicholson had the affected member; in his confusion of thought, under chloroform, the patient had mistaken the arm and so 'clawed' the wrong fingers. The affected member was bandaged with the fingers straight. About three days afterwards he complained of pain and discomfort. 'Glad to hear it, my man; when the pain goes off you will be cured.' The pain did go off in a couple of days, and he never 'clawed' again. A third case, of assumed shoulder-stiffness after a skin-wound, was treated upon similar principles, the attention of the patient being directed to the sound and healthy joint by rough manipulation, while the presumably diseased member was lightly and gently touched. An equally satisfactory result followed.

3. *Yeo on Discharge of Gall-stones through the Abdominal Walls*.—This case, an abstract of which appears in the *Lancet*, August 1880, p. 203, was that of a dressmaker, aged fifty-six, who was admitted into Hospital in October 1879. For five years she had attended on and off for dyspeptic symptoms, but not such as usually attend the passage or formation of gall-stones. She recollected in 1873 having had a severe attack of pain and slight jaundice. In

February 1879, she had a severe attack of jaundice and kept her bed two months. In the following August she first noticed a swelling in the lower part of the abdomen on the right side, which was ordered to be poulticed. In September the swelling broke, and many gall-stones passed, sixty-one before admission, and seventeen in the first fortnight of her stay in the hospital. As the abscess continued to discharge, and the probe came on hard masses, the fistula was dilated, on November 7th, by Mr. Lister, without, however, any more calculi being passed. In February 1880, the patient continuing in much the same position, Mr. Lister opened the sinus, by an incision of six or seven inches, dislodging about twenty calculi from the main tract; but a diverticulum, being traced to the right, was found to contain five more calculi, so that these five and twenty calculi were found infiltrated, as it were, in the abdominal wall. No further escape of stones occurred, and the fistula healed perfectly after more than a hundred calculi had been discharged. RICHARD NEALE, M.D.

4. *Glasgow on Plastic Bronchitis.*—In an interesting article on this subject, besides giving a *résumé* of the experience of other American physicians, Dr. Glasgow, of St. Louis (*St. Louis Courier of Medicine*, February 1880), records a case that had been under his own observation for some time. His patient, a lad 17 years of age, had, a year before being seen by him, caught a violent cold which lasted two months. During the following six months he was perfectly well, with the exception of a slight hacking cough. He then noticed for the first time small bits of cast in the expectoration. At the same time there was a feeling of tightness in the chest, but he became quite free from this on removal to the country. On his return to town the old feeling of oppression recurred, and bits of membrane again appeared in the expectoration. One day he was suddenly seized with a violent chill, followed by high fever for about twenty-four hours, during which he had violent paroxysms of coughing with an intense feeling of suffocation. During one of these paroxysms a large mass was expectorated, which proved to be a beautifully branched bronchial cast. This gave relief, but in a few hours another similar one was brought up. The sense of oppression disappeared. Physical examination showed percussion normal, but a diminution of respiratory murmur over the middle of the left lung, near the angle of the scapula, where a few subcrepitant râles could be heard. He was put upon iodide of potassium and syrup of the iodide of iron; and an inhalation of the ethereal extract of tar, with carbolic acid, was employed nightly. Seventeen days afterwards two large casts were again expectorated, and for a time small bits came away, but for more than a year he has now been in perfect health. The first casts expectorated were of a pearly white colour, of firm consistency, the smaller branches presenting the appearance of fine, perfectly defined threads; the later casts showed a decided change in consistency and firmness, the external coats appearing softened, whilst the finer filaments lost their well defined rounded form, and in some cases appeared as bundles of disintegrating fibrillæ. This change Dr. Glasgow believes he can truly ascribe to the action of the remedies, but leaves it an open question whether it is due to the iodide or to the inhalations.

5. *Garel on Sciatica caused by Aneurism of the Abdominal Aorta.*—In this case (*L'Union Médicale*, p. 951), the pains of sciatic neuralgia absorbed the attention both of patient and medical man so entirely, as to leave absolutely unnoted symptoms of

aneurism until the day when the patient succumbed rapidly after its rupture. This fact teaches that, in the presence of obstinate sciatic neuralgia, the course of the abdominal aorta should always be minutely explored. Lebert, in a work published in 1865, asserts that pain in the kidneys is often one of the first signs of aneurisms of the abdominal aorta. [See particulars of a similar case shown by Dreyfus to the *Société Anatomique de Paris*, in 1876; other cases cited by Samuel Archer, in the *Dublin Medical Journal*, 1878; and Lediard in the *British Medical Journal*, 1878.] M. Garel's case also presented an important symptom, a diastolic soufflé at the base of the heart, which was not due to insufficiency of the aorta, since the other rational symptoms of this affection were absent. It remains an ascertained fact that aneurism of the abdominal aorta may give rise to the production of souffles in the region of the heart—diastolic or systolic souffles in no way connected with a lesion of the aortic orifice. Moutard-Martin's cases (*Société Anatomique*, 1845), those of Lepine and Falzer (*Société Anatomique*, 1877), and of Archer (*loc. cit.*) show that these souffles are due to the propagation of sounds produced at the level of the tumour.

6. *Goldammer on Puncture in Pleural Effusions.*—Goldammer, at a recent meeting of the Berlin Medical Society (*Berl. Klin. Wochenschrift*, Nos. 19 and 20), laid before the members certain results of his rich experience at the Bethany Hospital with regard to this question. He has operated in all on 123 cases, and performed 200 punctures on them. Of these 123 cases, 19 were cases of purulent exudation, 49 cases of primary pleurisy with sero-fibrinous exudation, and 55 were cases of secondary exudation and transudation (in phthisis, pneumothorax, typhus, tuberculosis, carcinoma, and hydrothorax, and in affections of the heart and kidneys). In purulent exudations, Goldammer thus far considers incision to be indicated without exception; he makes the opening generally at the angle of the scapula, and, at the same time, performs resection of a piece of rib. For the first time, on the 18th February, shortly before his communication, he had employed the puncture with antiseptic washing out, recommended by Baltz in a case of purulent exudation, and was very well satisfied with it. The exudation did not collect again, and at the end of seven weeks, the patient recovered with the lung perfectly expanded. Goldammer divides sero-fibrinous exudation of primary idiopathic pleurisy in otherwise healthy infants, into two groups: the first includes the abundant effusions, which displace the whole contents of the thorax, the heart, and liver; in the second group, he reckons the smaller and average effusions. In the first group, in which he counts 22 of his 49 cases of sero-fibrinous exudation, puncture had the most excellent results. In several cases (8 times) one puncture succeeded in giving direct impulse to resorption: diuresis increased, and in from nine to fourteen days the residual fluid disappeared. In seven cases, the puncture needed to be repeated. It may be considered a rule that the level of the fluid rises a few days after the puncture in the intercostal spaces; this Goldammer explains partly by the return of the displaced organs to their normal position. Puncture must not be delayed until dyspnoea becomes dangerous, but must anticipate such a condition. The degree of the phenomena of displacement determines the period for puncture. Fever does not contra-indicate it; it usually disappears after a few days. The author evacuates the fluid to the extent of from $1\frac{1}{2}$ to $3\frac{1}{2}$

litres with a trocar, protected against the admission of air, and generally in the median line. In the small and medium effusions, he makes the puncture with Dieulafoy's aspirator with capillary cannulae. Delay of absorption, that is to say, when, about eight days after the cessation of fever, no resorption could be ascertained—indicated puncture in 27 cases. In these cases usually from 500 to 600 cubic centimètres were evacuated, sometimes a litre. All the cases of serofibrinous effusion recovered, both those with abundant and those with scanty effusion. No suppurative change in the exudation occurred in any case. The cases of pleurisy treated with puncture in no case gave rise to any considerable retraction. In cases of secondary exudation, as well as of transudation, he finds an indication for puncture principally in dyspnoea, and has always seen some, and often a very considerable, palliative result; and occasionally, in heart-disease, a considerable improvement in the primary affection. In pneumothorax, also, the removal of the fluid exudation relieves the patient. On five occasions, he found the effusion serous and not purulent. He aspirates with Dieulafoy's apparatus, puncturing in cases of slight exudation at the seventh or eighth intercostal space below the angle of the scapula, in more considerable effusions at the fifth or sixth space in the axillary line. Absolute cleanness of the instrument, of the place of puncture, etc., is to be looked after with the greatest care. Finally, he refers to the disagreeable incidents and occasional dangers of the method. Laceration of the lung by aspiration he considers to be impossible, with a little care; so soon as dragging pains occur, or the well known paroxysms of coughing, induced by the re-admission of air to the collapsed part of the lung, the aspiration is stopped. Suppurative change of the exudation is also unknown, according to Goltdammer's experience, when the operation is performed carefully. He has seen such a thing once only, in a case in which the flow of fluid through the trocar was stopped, and in which he drew out his needle to clear it, and thus introduced germs of infection (drops of oil, etc.) In cases in which this suppurative change is believed to have occurred through puncture, either there has previously existed a slightly turbid exudation, or germs have been introduced, through unclean instruments. In a correctly performed puncture, sero-fibrinous exudation is never changed to a suppurative one.

7. *Féréol on the Treatment of Cases of Intra-peritoneal Rupture of Hydatid Cysts.*—At a recent meeting of the Académie de Médecine (*Le Progrès Médical*, 1880, p. 426), M. Féréol read a paper on this subject, in which he stated that in the present condition of our knowledge it is impossible to say exactly what circumstances determine the comparative mildness or malignancy of the symptoms which accompany rupture of hydatid cysts into the peritoneal cavity. The following conclusions, however, may be stated with some degree of confidence. 1. Previous suppuration of the cyst gives rise in case of rupture to a subacute rapidly fatal peritonitis, at least where the peritoneum has not been sealed by adhesions which limit its inflammation. 2. The penetration into the peritoneum of an absolutely limpid and clear fluid, which appears to be inoffensive in some cases, is followed in other cases by rapidly fatal accidents. 3. The presence of living hydatids thrown into the peritoneum is less dangerous than that of dead hydatids: spontaneous cure is possible in the former case. 4. In cases where the peritonitis following

rupture becomes moderated, and where, nevertheless, ascites is produced, intervention may be practised with some hope of success if the ascitic fluid be not absorbed. Simple puncture is alone sufficient to effect a cure. If this procedure fail, it may become necessary to evacuate the foreign bodies contained in the peritoneum as soon as possible. A large opening may be made into the abdomen by a trocar, and cleansing out of the peritoneal cavity twice daily may be employed with success.

8. *Zenker on the Pathogeny of Pericarditis.*—Professor Zenker, of Erlangen, at the fifty-second annual meeting of Physicians and Naturalists at Baden-Baden, called the attention of practical physicians to a mode of origin of pericarditis, which, although no doubt it had not hitherto escaped attention, was, in his opinion, not yet recognised sufficiently often, in relation to what he believed to be its relatively great frequency. This is the causation of pericarditis, by processes of ulceration in the posterior mediastinum, whether these processes only reach the pericardium, or lead to actual perforation of it. These ulcerations are usually related to perforations of the œsophagus or bronchi, being caused either by such perforations, or the perforations in the œsophagus and bronchi, or in both, being secondary. In both cases, the communication thus set up with the external air readily gives rise to suppuration and to a further spread of the ulceration, in which the pericardium is easily involved. The pericarditis thus excited may be either fibrinous or suppurative, and also, where there is simultaneous perforation of the pericardium and of the œsophagus or bronchi combined with pneumo-pericarditis. *Post mortem* observations have shown to Dr. Zenker the relative frequency of these processes, as well as the frequent recovery from the pericarditis thus arising. The insidious commencement and the almost entire absence of symptoms in the course of mediastinal ulcerations, as well as their obscure seat, explain the little observation which this subject has yet obtained either at the bedside or in the *post mortem* room. Among the causes of mediastinal ulceration, perforation of diverticula of the œsophagus appears to play a prominent part. The possibility of making a more sure diagnosis of these processes, so as perhaps to act more effectively on them by therapeutic means, does not appear to be excluded, looking to the progress in physical diagnosis which characterises modern medicine. In any case, however, it will be possible to clear up by observation of these facts in pathological anatomy, many cases of pericarditis of which the pathogeny has hitherto remained concealed. Professor Wyss, of Zürich, laid stress on the practical importance of this communication, and remarked in a general way on the relations of the posterior mediastinum to the affections of the pericardium. He related a case of diphtheria with secondary suppurative inflammation of the mediastinum and an extension of the inflammation to the pericardium. In a second case a workman fell ill with dysphagia, which was followed after some time by pericarditis. He died with symptoms of tuberculous peritonitis. At the necropsy, there were found tuberculous peritonitis and pericarditis. The bronchial glands had undergone tubercular degeneration, and were adherent to the pericardium, which was perforated. He remarks on this, that not only fibrinous, suppurative, and septic pericarditis, but also the tubercular form of it, may take its origin from the mediastinum, especially from the bronchial glands.

9. *Swiatlowsky on an Epidemic of Ergotism.*—

This epidemic (*St. Petersburg. Medic. Wochenschr.*, 19th July, 1880) occurred during the autumn of 1879 in the neighbourhood of Novgorod. In the district attacked, an inhospitable climate and a marshy soil were combined with poverty, dirt, and generally unhealthy conditions among the villagers. Of nineteen cases in which the symptoms were strongly marked, four died. In other sixteen cases the symptoms were less developed, and probably as many more escaped observation. In these slighter cases the symptoms were diarrhoea (in seventy per cent.), weakness, more especially in the hands and feet, occasional attacks of giddiness, headache, sleeplessness, and deadness of the fingers, with formication under the skin. All had, up to their seizure, eaten fresh-ground unkilned rye, and the symptoms quickly disappeared under the use of laxatives and opiates, and the withdrawal of bread containing ergot. In the first-mentioned nineteen cases the symptoms were severer: racking pains in the extremities, severe headache, great thirst and utter prostration, with weakness of intellect and melancholia. Tonic and clonic spasms preceded by dyspnoea, deadness in the extremities, and cold sweats, attacked the flexor muscles of the limbs, the extensors being unaffected. In no case did gangrene occur. The respirations were 14-16; maximum temperature 99.8 deg., minimum (in three cases) 95.9 deg.; pulse slow and weak. The fatal cases, an old man and two children in one family and a woman in another, died, three of them in a comatose condition and one during a convulsive fit. The treatment was as above, with subcutaneous injections of morphia, and inhalations of chloroform, followed by tonics and improvement of hygienic conditions. The quantity of ergot present in the rye was about seven per cent., and two dogs fed with it each showed on the seventh week a gangrenous ulcer on one paw. On withdrawal of the ergot-bread from one dog, recovery followed in two months; while in the other, fed as before, the gangrene advanced, convulsions appeared, and death followed by way of coma in the tenth week. The *post mortem* appearances were: brain and meninges anæmic, arteries quite empty, veins full of dark fluid blood, heart empty, lungs, liver and spleen hyperæmic, intestinal mucous membrane congested, but neither it nor the liver showing any gangrenous spots such as have been described.

JAMES ANDERSON, M.D.

SURGERY.

RECENT PAPERS.

1. MOORE, J. S.—On a Case of Meningocele. (*St. Louis Medical and Surgical Journal*, February 1880.)
2. STANTON, L. L.—On Restoration of the Hand after Complete Separation from the Arm. (*North Carolina Medical Journal*, May 1880.)
3. WARREN, J. H.—The Radical Cure of Hernia by Hypodermic Injection. (*Philadelphia Medical and Surgical Reporter*, March 17, 1880.)
4. MARKOE and others.—On Bullets in the Brain. (*New York Medical Record*, June 1880.)
5. GUNDRUM.—On Surgical Poisoning by Carbolic Acid. (*Therapeutical Gazette*.)
6. BEATSON, G.—Antiseptic Surgery: the Catgut Ligature. (*Glasgow Medical Journal*, July 1880.)
7. KILGARRIFF, M. J.—On Osseous Ankylosis of the Knee, operated on by Barton's Method. (*Dublin Journal of Medical Sciences*, March 1880.)
8. GARDNER.—On Rouget's Operation for Oozena. (*Australian Medical Journal*, Dec. 1879.)

9. NÉLATON, CH.—On Traumatic Hæmothorax. (Paris, 1880.)
10. ELIAS, C.—On Gastrotomy for establishing a Gastric Fistula. (*Deutsche Medicinische Wochenschrift*, No. 25, 1880.)
11. BROWN, F. M.—On Treatment of Compound Fracture with Compound Tincture of Benzoin. (*Lancet*, July 1880, p. 9.)
12. FOSTER, CLARENCE.—On Fractured Femur from Muscular Action. (*Lancet*, June 1880, p. 994.)
13. POLLOCK, GEORGE.—On Crushing Hæmorrhoids. (*Lancet*, July 1880, p. 1.)
14. HULKE, J. W.—On the Dietetic Treatment of Cancer. (*Medical Times and Gazette*, June 1880, p. 693.)
15. CHEYNE, W. WATSON.—On a New Method of Treating Gonorrhœa. (*British Medical Journal*, July 1880, p. 125.)
16. LANGENBUCH.—A Case of Duodenotomy. (*Congress of Association of German Surgeons*.)
17. STARCKE.—Complicated Dislocation of the Elbow-joint. (*Ibid.*)

1. *Moore on a Case of Meningocele*.—In the *St. Louis Medical and Surgical Journal*, Feb. 12th, 1880, there is a report of a discussion at the St. Louis Medical Society on the subject of meningocele. The rest of the discussion is hardly worth abstracting, as it turned only on diagnostic points which have been fully dwelt on in works familiar to all students of surgery; but the following case is of considerable interest, and though very loosely reported ought to be put on record. Dr. J. S. Moore said 'that about thirty years ago he attended a lady whose boy was born with a tumour on the back of his head; it apparently consisted of a portion of the brain and its coverings. There was an absence of bone. The tumour continued to grow until the child was about a year old. In consultation with Dr. Barbour, of St. Louis, who died of cholera in 1849, it was determined to remove the tumour. A ligature was tied around it and it sloughed off. The disease was accompanied with strabismus. The patient recovered and is living in this city at the present time. The young man is considered semi-idiotic, and it is supposed that the tumour contained a portion of his brain. The brain-symptoms were so severe that it was thought he would die if the operation was not performed. As a *dernier ressort* the ligature was tied around it and it sloughed off'. [It is a great pity, no doubt, that a case of such interest and rarity should be presented in so careless a manner—that nothing should be said about the nature of the strabismus, the period of its occurrence, or the effect of the operation upon it; nothing about the brain-symptoms, nor how they were influenced by the ligature of the tumour, nothing about the exact position of the tumour and the appearances which led to the inference that it contained brain; nothing more definite about the present condition of the patient. But we suppose that when so much of medical literature consists of the reports of the societies, as is the case at present, a good deal of it will consist of very ill-digested materials. Meanwhile, we are not without hope that this notice of Dr. Moore's case may induce this gentleman, or some other medical man acquainted with the patient, to supply a more satisfactory report of this remarkable case.—*Rep.*] T. HOLMES.

2. *Stanton on Restoration of Hand after complete Separation from the Arm*.—Dr. L. L. Stanton, of Tarborough, reports the following remarkable case (*North Carolina Medical Journal*, May 1880). On Friday afternoon, February 5th, 1880, he was called to see Mary Sumlin, aged eleven years, quite anæmic

and rather small for her age. While helping her mother to procure fire-wood she placed her hand in the way of an axe, and at one blow had it severed, from the styloid process diagonally across the trapezium, passing through the scaphoid bone and posterior annular ligament, dividing all the muscles, bones, and blood-vessels, and completely separating the hand from the arm, excepting a small portion of skin, below the articulation with the ulna. The hand was hanging at right angles to the arm when Dr. Stanton saw her, about thirty minutes after the accident. He determined at once upon amputation at the wrist, and returned to his office to procure the assistance of another physician; but, finding this impracticable, he proceeded carefully to replace the hand, which was held securely in position with silver wire sutures and adhesive plaster. In dressing the wound the patient complained of pain when he used the needle in the arm, but none when it was used in the hand. He secured the hand and arm upon a broad splint, and directed that they should be kept warm by being wrapped in hot flannel cloths. When he saw her twelve hours afterwards, the hand was very much swollen; no sensation or pulsation could be detected, nor had she complained of any pain, but rested quietly during the night. The next day she complained of a little pain, but the hand and arm presented the same appearance as yesterday. On the third day he could plainly feel pulsation in the hand; it had changed its colour, and he now for the first time thought it possible to save the hand. From this time she did not have a bad symptom, nor was there any supuration or secretions of any kind; the wound healed entirely by first intention. The sutures were removed upon the fourteenth day, and afterwards she carried the hand in a sling, and could extend the fingers and grasp with nearly the usual strength. There was no ankylosis of the wrist-joint.

3. *Warren on the Radical Cure of Hernia by Hypodermic Injection.*—Dr. J. H. Warren (*Philadelphia Medical and Surgical Reporter*, 17th March, 1880) reports having obtained excellent results in the treatment of hernia of all varieties, by the subcutaneous injection of various fluids into the tissues in front of the hernial rings. For infants, and children to the age of five, he uses an aqueous extract of oak-bark; for children of five to fifteen, the extract of oak-bark distilled to the consistency of glycerine, with ten drops of sulphuric ether to the drachm; for old or long standing hernia, congenital or otherwise, a solution composed of four drachms of the last mentioned extract, one of sulphuric ether, and one of absolute alcohol, with one to two grains of sulphate of morphia. The syringe is made to hold two drachms, and the needle is spirally twisted and pierced with holes on the sides; the fluid is thus ejected on the parts at right angles. This proceeding excites slight fever, and a certain amount of local inflammation; the parts become matted together in such a way as, in the great majority of cases, to effectually close the hernial openings. After the operation the patient should keep in bed for about a fortnight. The parts should also be supported for some time by a compress and bandage, or light spring truss. Over-exertion or great straining must be avoided for several months, till the rings are consolidated. Twelve operations are here noted; three were partial failures, the rest were perfectly successful.

4. *Markoe and others on Bullets in the Brain.*—At a recent meeting of the New York Academy of Medicine, in the course of a discussion on this subject (*New York Medical Record*, June 1880), Dr. Markoe

said that he was called some years ago to see the son of a physician who had accidentally been shot with a pistol carrying a ball of 22 calibre. About one-third of the bullet could not be accounted for. He supposed that it had penetrated the bone. Moreover, the dura mater was penetrated, and he could pass a probe into the brain-substance for about one-third of an inch. He felt perfectly sure that a certain number of grains of the bullet were imbedded in the brain; but the boy never had a single bad symptom. Dr. Hutchison referred to a specimen which he presented to the New York Pathological Society. It was the brain of a child who upon the 4th July was shot with a toy cannon, the ball entering the head just behind the right ear. A probe passed in, without hindrance, two inches. The child had no bad symptoms at all. It subsequently died from scarlet fever, and at the necropsy it was found that the ball had traversed the posterior lobes of the cerebrum, but he was not able to find the bullet. Six months subsequently, the brain was examined more carefully, when the ball was found about two inches in front of the point at which it emerged from the brain upon the left side. It had struck the skull, glanced forward, and buried itself in the brain. Dr. Hamilton referred to the following case. Five or six years ago he was called to Hartford, Connecticut, to see a man who had shot himself, or had been shot with a pistol, and, after receiving the ball in his forehead, walked home, and subsequently began to suffer very moderately from cerebral symptoms. When he was sitting quietly, the activity of the brain was undisturbed. He had slight vertigo, and was unable to walk. The opening in the bone was still free, and he was able to carry a probe, without resistance, into the cranial cavity fully three-fourths of an inch beyond the margin of the opening in the skull. The ball was not discovered. A year subsequently, the man was well and attending to business.

5. *Gundrum on Surgical Poisoning by Carbolic Acid.*—In the *Therapeutical Gazette*, Dr. Gundrum reports the particulars of a case of chronic knee-joint disease, in which over-distention of the abscess-sac with a carbolic acid solution, strength 1 to 40 (Callender's method), was followed by symptoms of a most alarming and almost fatal collapse, due to carbolic acid poisoning, as was clearly proved by the abundant formation of carbolic acid crystals in a portion of the patient's urine after evaporation. A great variety of treatment was tried, without success, to produce a reaction. The patient was almost moribund. A profuse cold clammy perspiration stood out all over his body. The forehead, face, and extremities were as cold as they could well be. The trunk was very cool. The patient lay with his eyes closed, breathing very slowly and superficially. The pulse was perceptible at the wrist only part of the time. In this extremity, Dr. Gundrum proposed the hypodermic injection of atropine as a last resource, having found it useful in several other cases of shock and collapse. Seven drops of a solution, containing one grain to the ounce, were injected into the upper part of the right arm. In fifteen minutes the perspiration was much less, and the skin felt less cold. In twenty-five minutes the whole surface of the body was dry, and the trunk began to feel warm. In one hour from the injection the hands and feet, as well as the whole body, were warm. The pupils were slightly dilated, and there was slight redness—a feeble blush—about the cheeks, neck, and back of the hands, and the lips and ears were of a pale red colour. Entire consciousness rapidly returned, and the patient began to take beef-

tea, gruel, etc. He now told those in attendance that he had known nothing since the time the upper abscess had been distended for the third time.

6. *Beatson on the Catgut Ligature.*—In an article on Antiseptic Surgery in the *Glasgow Medical Journal* for July 1880, Dr. G. Beatson directs attention to the following points. 1. The catgut ligature employed in Lister's antiseptic system is made from the small intestines of sheep and lambs. 2. To carbolise it, it requires to be steeped for some time in a mixture of carbolic acid, water, and olive-oil. 3. It should remain in this for at least two months before it is fit for use, but it is better for being kept in it a longer period. 4. When used as a ligature, the ends are cut off close to the knot. 5. It is absolutely necessary to carry out all the details of Lister's system when a carbolised catgut ligature is employed. 6. If these details are observed, putrefaction will be prevented in the wound, and the carbolised catgut will undergo changes of an absorptive and organising character. 7. An artery tied in its continuity antiseptically with such a carbolised ligature is really strengthened at the point of deligation. 8. To employ it as a ligature, without following Lister's system, is to court failure with it and run considerable risk. 9. Under certain circumstances, carbolised catgut is useful for draining wounds and for sutures. 10. The introduction of the carbolised catgut has considerably enlarged the field of operative surgery.

7. *Kilgariff on Osseous Ankylosis of the Knee operated on by Barton's Method.*—Mr. M. H. Kilgariff relates the following case in the *Dublin Journal of the Medical Sciences* for March 1880. M. H., aged 30, the subject of faulty bony ankylosis of the knee, was admitted into Jervis Street Hospital on the 4th September 1877. On examination, the leg was found to be bent at a right angle, the knee immovable, the anterior and lateral aspects being rough and irregular, and covered with a thin slate-coloured cicatrix. On the 16th September, assisted by his colleagues, Mr. Kilgariff operated. Ether having been administered, he cut on the lower portion of the thigh a triangular flap, with the base on the outside, exposing the femur. He then passed carefully under the bone a curved metallic spatula, and with a saw removed a wedge-shaped piece of bone which had its base in front, and measured vertically three-quarters of an inch. He then straightened the limb without difficulty, and placed it in a splint, the outside piece of which reached the axilla while the inner part fell short of the groin; the lower portion was a box, and joined the thigh part at a very obtuse angle. The dressing consisted of lint steeped in carbolised oil, and a solution of permanganate of potash was used to wash the site of operation. The wound suppurated for a few weeks, then closed in, and the divided surfaces of the bone were early united by a firm osseous band. In somewhat less than three months the patient was able to lean on the leg, and, aided by crutches, could without difficulty walk about the ward. The operation differed from Barton's in two particulars, which Mr. Kilgariff regards as an advantage—viz., cutting through the bone, which left no spicula to pierce the fascia behind, and having the base of the flap at the outside averted the possibility of bagging of matter, and made the wound more accessible for dressing. In Barton's method the bone posteriorly was uncut, and the flap was on the inside. In the above case there was no shortening, and the patient could walk well and discharge her duties as a servant.

8. *Gardner on Rouget's Operation for Ozæna.*—

In the *Australian Medical Journal*, December 1879, Dr. Wm. Gardner records some cases with a view to drawing the attention of the profession to the advantages of this operation. In 1873, Rouget, of Lausanne, published an account of eight cases of ozæna successfully treated by dissecting up the upper lip, and freely dividing the lateral cartilages and the septum nasi. The first case so treated by Dr. Gardner was one of inveterate ozæna. The hæmorrhage was rather profuse, but was soon controlled by the pressure of sponges wrung out of hot water. A piece of dead bone was removed, and the upper lip relaid in position, and detained by a strip of plaster. In a few days the wound was perfectly healed, and no trace of smell could be detected. In the same way he has successfully removed a sequestrum from the hard palate. He prefers an operation on this principle, also, in opening the antrum externally for chronic suppuration in its cavity; and by the same method he has removed a sebaceous tumour from the lower margin of the orbit, without external wound.

9. *Nélaton on Traumatic Hæmothorax.*—The following are the general conclusions given in a recent work by Dr. Ch. Nélaton, of Paris (*Des Epanchements de Sang dans les Plèvres consécutifs aux Traumatismes*, Paris, 1880). 1. Effusions of blood into the pleura result either from a lesion of the vessels of the thoracic wall, or from wounding of the intrathoracic vessels. In the latter case, the pleural hæmorrhage is usually derived from the vascular divisions accompanying bronchi of the second and third order. 2. Thoracic aspiration favours the flow of blood. The bleeding is speedily arrested by the accumulation of blood in the pleura. 3. The blood effused into the chest coagulates immediately and throughout almost its whole mass, and so becomes divided into two portions: coagulum and serosity. 4. If the effusion be not very abundant, the serosity is reabsorbed by the third or fourth day; and when the phenomena of inflammatory reaction supervene, they remain localised in the region around the clot. This irritative process serves to establish encysting of the clot. 5. If very much blood have been effused, the serosity exuded during coagulation has not time to be all absorbed before the appearance of phenomena of reaction. The serosity then becomes altered, and its presence gives rise to bad symptoms. 6. The symptoms and prognosis of traumatic hæmothorax vary in these two classes of cases. In the former, the prognosis is favourable; in the latter, it is grave. The rules of treatment are thus formulated. 1. In case of stabbing, immediately after the injury to close the wound. This occlusion to be made either with gutta-percha tissue or with wadding and collodion. 2. If the symptoms of dyspnoea and the fever diminish gradually, to leave the patient at perfect rest and to avoid any interference. 3. If inflammatory symptoms be suspected between the eighth and twelfth days, to treat these by blistering and local bleeding. 4. But if the oppression of breathing and the fever, instead of diminishing rapidly, remain stationary or increase in intensity, it is necessary to act at once and to evacuate the effused fluid. The surgeon should at first make a capillary puncture; if the effusion consist simply of dark coloured serosity, this method will be found the best; it will suffice to empty the pleura, and is not so grave a procedure as that requiring a counter-opening. If, however, the effused fluid have already undergone a change, and have become purulent and fetid, it will be necessary to evacuate the effusion, as

in a case of empyema, in order that by frequent injections such phenomena of putridity as are presented may be effectually dealt with.

10. *Elias on Gastrostomy for Establishing a Gastric Fistula.*—Dr. Carl Elias, of Breslau, in a contribution to the *Deutsche Medicinische Wochenschrift*, No. 25, 1880, points out that gastrostomy, performed for the relief of carcinoma of the œsophagus, has hitherto been almost invariably attended with bad results. Whilst in some few instances in which a gastric fistula had been established for the relief of symptoms caused by impermeable cicatricial stricture, the patients survived in good health for many months after the operation, similar treatment in instances of carcinoma of the œsophagus has always been followed by death within a period of three months. In most of the forty instances of gastrostomy performed for œsophageal carcinoma during the past two years, the patient died in the course of a few days after the operation. The author then proceeds to discuss the question whether, in the face of such results, it will be prudent for surgeons in future to attempt to establish a gastric fistula in cases of cancer of the œsophagus. An analysis of the cases in which gastrostomy has been performed shows, the author states, that very few of the patients died from acute peritonitis consequent on the operation. Since the introduction of the antiseptic method, and also in consequence of recent improvements in the method of fixing the stomach to the edges of the wound in the abdominal wall, the risks of acute peritonitis as a result of gastrostomy have much diminished. The statistics of recent ovariectomy prove that operations on the abdominal cavity have been attended with much less danger since the introduction of Listerism. The author, in order to show that very severe operations may be performed on the stomach under antiseptic conditions without exciting peritonitis, refers to a case in which he attempted to excise a cancerous growth at the pylorus. In this case, although the whole of the stomach had been drawn out through an incision in the abdominal wall, the patient subsequently remained quite free from fever and lived until the twentieth day after the operation, when death occurred simply as a result of the disease. In most of the cases of carcinoma of the œsophagus in which a gastric fistula was established, the operation, the author believes, had been too long postponed, and the patients died in consequence of exhaustion and slow starvation. If it be recognised that gastrostomy for establishing a gastric fistula is a safe operation when performed with antiseptic precautions, and that good and plentiful nourishment is one of the main therapeutical objects in cases of carcinoma of the œsophagus, then it must be allowed, it is argued, that the surgeon is not only justified in performing the operation in cases of such disease, but is bound to have recourse to such proceeding at as early a stage as possible, and to establish a gastric fistula before the patient's strength has been reduced to a minimum and the cancerous disease has far advanced. The irritation of the diseased parts by the passage of food is thus removed, and the patient's mind is relieved from the fearful prospect of death from starvation. Lumbar colotomy, performed for the relief of the symptoms of rectal cancer, is now a recognised operation, and in cases of acute laryngeal stenosis tracheotomy is often performed for the sake of euthanasia, and notwithstanding the probability of speedy death from diphtheria or croupous pneumonia. One of the most important points in the operation for establishing a

gastric fistula, is the secure attachment of the anterior wall of the stomach to the edges of the incision in the anterior abdominal wall. Unless care be taken in applying the sutures, there is a risk, during vomiting or coughing, of the stomach being separated and slipping far back into the abdominal cavity. The author prefers for this part of the operation an interrupted suture of tough and firm material, involving, on the one hand, a broad piece both of the serous and the mucous coats of the gastric wall, and, on the other hand, the whole thickness of the abdominal wall, including the peritoneum. This is sufficient to retain the empty stomach in position until it has contracted firm adhesion to the parietes. It is unimportant whether the material of the suture be silver wire, catgut, or silk, and equally so whether the wall of the stomach be incised immediately, after the application of the suture or subsequently, after an interval of some days, when the parts have contracted firm adhesion. The author reports a successful case of gastrostomy for establishing a gastric fistula. The patient, a male, aged 46, first experienced difficulty in deglutition in May of last year. This symptom gradually increased, and in November the man was unable to swallow solid food. During the interval he had suffered from occasional attacks of pain in the back and right shoulder, and in October deglutition of small masses of solid food was followed by cough, nausea, and vomiting. From the commencement of the present year he became weak, and rapidly lost flesh. Dr. Elias saw the patient for the first time in February, and, after exploration of the œsophagus, diagnosed an annular carcinomatous structure in the lower third of the canal. In spite of the daily introduction of an œsophageal tube the structure progressively contracted, and at the end of May it was found impossible to pass any instrument through which fluid food could be introduced into the stomach. Gastrostomy was then performed with attention to all antiseptic precautions, save the use of the spray. Much difficulty was experienced in finding the stomach, which was very small and not distinguishable from intestine, until after free exposure both of the viscus and of the mesentery with the gastro-epiploic vessels. During the application of numerous sutures of stout carbolised silk, the stomach was retained near the surface by two long needles passed at right angles to each other through the anterior wall of the viscus. During the first four days after the operation the patient suffered very much from pain in the epigastric region, and from almost intolerable sensations of hunger and thirst; but, after incision of the gastric wall and final establishing of a fistula, on the fifth day, he progressed favourably, and ultimately, with regard to the operation, made a good recovery. When last seen by Dr. Elias, the patient was able to walk about, his pulse and temperature were normal, he reported the conditions of his life to be tolerable, he had been relieved of the dread of dying from starvation, and there was a good prospect of his living for some time.

W. JOHNSON SMITH.

11. *Brown on Treatment of Compound Fracture with Compound Tincture of Benzoin.*—In the *Lancet*, July 1880, p. 9, Mr. Fergus M. Brown brings our old friend benzoin again to the fore, having found cases of compound fracture dressed with lint well steeped in the tincture, rapidly heal. A reference to sections 393:6 and 1654:4 of the *Medical Digest* will show that the idea is not novel.

12. *Foster on Fractured Femur from Muscular Action.*—In the *Lancet*, June 1880, p. 994, Mr. Clarence

Foster relates the case of a gentleman of middle-age, apparently in perfect health, who, whilst walking across the room, tripped and felt his femur snap. [Many similar cases of fracture of humerus, ribs, patella, os calcis, as well as of the femur, are recorded in Section 1653: 1 of the *Medical Digest*.]

13. *Pollock on Crushing Hæmorrhoids*.—Mr. Pollock brings forward the result of many years' experience of this mode of treating hæmorrhoids, in the *Lancet*, July 1880, p. 1. A very efficient clamp, figured at page 2, has been designed by Mr. Benham and manufactured by Mr. Wright of the Strand. The clamp is applied well to the base of the pile and at once screwed tightly home. The portion of pile that protrudes is excised, and the clamp removed after a minute or so. The force exercised by the clamp is equal to a pressure of 160 lbs. At page 158, Mr. Benham enters into details regarding the cases he has treated under Mr. Pollock's care, and fully vindicates the operation from strictures passed upon it by Mr. Barrow in a previous number of the *Lancet*, *vide* p. 74.

14. *Hulke on the Dietetic Treatment of Cancer*.—In 1877, Professor Esmarch suggested to Mr. Hulke to try, in his cancer wards, the free use of arsenic internally and externally, combined with Professor Beneke's diet, the nature and object of which is described in the *Medical Times and Gazette*, June 1880, p. 693. It consists of a diet restricted to cocoa, tea, very little milk, no fish or flesh, but abundance of fruits, vegetables and salads. The result of Mr. Hulke's treatment he records at page 6 of the *Medical Times and Gazette*, July 1880. 'Some patients soon tired of this diet, and after a week or two begged to be allowed to return to their customary food: but others, more docile, perseveringly continued it during several months. The final result was that in no instance could I find that the progress of the disease was favourably influenced by this treatment.'

15. *Cheyne on a New Method of Treating Gonorrhœa*.—In the *British Medical Journal*, July 1880, p. 125, Mr. W. Watson Cheyne advocates the use of iodoform and eucalyptus emulsion in the treatment of gonorrhœa, on the supposition that the disease owes its vitality to distinct organisms, the destruction of which would allow all irritation and inflammation to subside. Practically he has found the remedies mentioned most successful, using iodoform in the shape of bougies of the size of No. 9 or 10 catheter, containing five grains in each, combined with ten minims of eucalyptus oil. The patient, after passing urine, lies on his back and passes the bougie (previously dipped in carbolic acid oil or eucalyptus oil), from four to six inches long, retaining it by closing the meatus with strapping. No urine is to be passed from four to five hours. If the case be severe, another bougie is passed into the urethra after urination. A saturated solution of boracic acid, or an emulsion of eucalyptus oil (one in twenty or forty parts of gum-water) is then to be used four or five times daily. On the third or fourth day, when all active symptoms have passed, an injection of sulphate of zinc, two grains to the ounce, completes the cure. R. NEALE, M.D.

16. *Langenbuch on a Case of Duodenotomy*.—At the last congress of the Association of German Surgeons, Herr Langenbuch shewed a preparation taken from the body of a patient—a young woman—suffering from cancer of the stomach, on whom he had performed duodenotomy in order to prolong life. The operation was easily performed, as the liver was small, and the stomach was pulled downwards and forwards by the weight of the malignant growth.

17. *Starcke on a Complicated Case of Dislocation of the Elbow*.—At the last Congress of the Association of German Surgeons, Herr Starcke shewed a boy who had dislocated his elbow-joint by a fall, the end of the humerus penetrating the skin. There was little difficulty in reduction; but the forearm was paralysed, and the radial pulse could not be felt. As the temperature of the fore-arm was tolerably good, Herr Starcke performed resection in place of amputation. The wound healed favourably, and innervation was restored. The patient recovered the use of his arm sufficiently to be able to work, but the radial pulse remained obliterated.

PHYSIOLOGY.

PHYSIOLOGICAL CHEMISTRY AND FERMENTATION.

RECENT PAPERS.

1. SCHMIEDEBERG, O.—On a New Carbohydrate. (*Zeitschrift für Physiol. Chem.*, Band iii, p. 112.)
2. EWALD, C. A.—On the Secretion from an Artificial Anus, and on the Elimination of Phenol and Indican. (*Virchow's Archiv*, Band lxxvii, s. 409.)
3. LANGENDORFF, O.—Experiments on the Pancreatic Digestion of Birds. (*Archiv für Anat. und Physiol., Phys. Abtheilung*, 1879, p. 1.)
4. LIEBERMANN.—On the Gases formed by the Action of Hydrated Oxide of Barium on Albuminous Bodies. (*Sitzungsbericht der k. k. Akademie der Wissenschaften in Wien*, Band lxxviii, 1879, Heft 1, 2 Ab., p. 80.)
5. VOSSIUS.—On the Estimation of Biliary Pigments in the Bile. (*Archiv für Exper. Path. und Pharm.*, Band xi, 1879, p. 427.)
6. SCHMIDT-MÜLHEIM.—Experiments on the Digestion of Albuminous Bodies. (*Archiv für Anatomie und Physiol., Phys. Abtheil.*, 1879, p. 39.)
7. BÖKAY.—On the Chemistry of the Sputum. (*Pester Med.-Chir. Presse*, 1879; *Centralblatt für die Medicin. Wissenschaft.*, 1880, p. 41.)
8. MUNK, J.—On the Physiological Significance and Relations of Glycerine in the Animal Organism. (*Virchow's Archiv*, Band lxxvi, p. 119.)
9. BLEILE, A. M.—On the Sugar contained in Blood. (*Archiv für Anatom. und Physiologie, Physiol. Abtheilung*, 1879, p. 59.)
10. HÜFNER, G.—On the Chemistry of the Bile. (*Journal für Pract. Chemie.*, New Series, Band xix, p. 302.)
11. HOPPE-SEYLER.—On Fermentation. Synthesis by Fermentation. (*Zeitschrift für Physiol. Chemie*, Band iii, p. 351.)
12. HAMMARSTEN, O.—On Fibrinogen. (*Pflüger's Archiv*, Band xviii, p. 563.)
13. WEYL and VON ANREP.—On the Excretion of Hippuric and Benzoic Acids in Fever. (*Centralblatt für die Med. Wissenschaften*, March 13, 1880.)
14. NENCKI, M.—On the Possibility of Bacteria Surviving in an Atmosphere containing no Oxygen. (*Journal für Pract. Chemie*, new series, Band 19, p. 337.)
15. GUNNING, J. W.—On the Possibility of Bacteria Surviving in an Atmosphere containing no Oxygen. (*Journal für Pract. Chemie*, New Series, Band 20, p. 418.)
16. NENCKI and SCHAFFER.—On the Chemical Composition of Bacteria. (*Journal für Pract. Chemie*, Band 20, p. 443.)
17. BOVET, V.—On the Antiseptic Properties of Pyrogallie Acid. (*Lyon Médical*, No. 2, 1879.)
18. STEBER, N.—On the Antiseptic Action of Acids. (*Journal für Pract. Chemie*, New Series, Band xix, p. 433.)
19. EGGER, E.—Bilinic Acid; a New Product of the Oxidation of Cholic Acid. (*Bericht der Deutschen Chemischen Gesellschaft*, Band xii, p. 1068.)
20. WERNICH, A.—The Aromatic Products of Putrefac-

tion in their Action on Bacteria. (Virchow's *Archiv*, Band lxxviii, p. 51.)

21. VON JAKSCH, R.—On the Conditions of Development of the Micrococcus Ureæ (Pasteur). *Centralbl. für die Med. Wissensch.*, 1880, p. 180.)

22. MAYER, JACQUES.—On the Influence of an Increased Imbibition of Water upon the Tissue-change. (*Centralblatt für die Med. Wissensch.*, 1880, p. 276.)

23. LAPTSCHINSKI, M.—On Spirochaetes. (*Centralblatt für die Med. Wissensch.*, 1880, p. 341.)

24. KRUKENBERG, C. F. W.—On Hæmocyanin, and its Distribution over the Animal Kingdom. (*Centralblatt für die Med. Wissensch.*, 1880, p. 18.)

25. ANDEER, J.—On Resorcin. (*Centralblatt für die Wissensch.*, 1880, p. 497.)

26. ISRAEL, J.—A New Contribution to the Human Mycotic Diseases. (Virchow's *Archiv*, Band lxxviii, p. 421.)

27. HANSEN, A.—On the Bacillus Lepre. (Virchow's *Archiv*, Band lxxix, p. 31.)

1. *Schmiedeberg on a New Carbohydrate.*—In the bulb of the squill (*Urginea scilla*) Schmiedeberg has discovered a new carbohydrate, which, under the action of dilute acids, passes into left-rotating sugar, and which, therefore, from the analogy of dextrin he denominates 'sinistrin'. To prepare it, powdered squill is mixed with water, and precipitated with acetate of lead. The filtrate is freed from lead and decomposed with milk of lime; the insoluble lime-salt of sinistrin then separates out. From this combination the sinistrin is freed by means of carbonic acid, and is precipitated from its solution in water by the addition of alcohol. After repeated solution in water, and precipitation by means of alcohol, the sinistrin is obtained in a pure condition as a white powder, very soluble in water, insoluble in alcohol. The alkaline solution holds oxide of copper in solution without reduction taking place when heat is applied. Malt-ferment and saliva are without action on sinistrin; weak acids transform it, in the heat, into a left-rotating sugar, without any other products being formed at the same time. This sugar reduces (like levulose) five molecules of cupric oxide in alkaline solution, and probably consists of an optically active and an inactive sugar, in the proportion of 5 to 1. The active sugar is levulose.

2. *Ewald on the Composition of the Secretion from a Præternatural Anus.*—The fresh secretion was of a variable consistency; in colour it was grey-brown to clear golden yellow; it had a slightly fecal odour, and a neutral or weakly acid, never an alkaline reaction. It contained much biliary colouring matter; it dissolved fibrin, forming pepton, formed sugar from starch, and emulsionised fat, showing the characteristic properties of pancreas-ferment. In the secretion numerous analyses failed to detect phenol or indol, and at the same time phenol and indican were absent from the urine; but, on the other hand, these substances appeared in the urine whenever the lower segment of the intestine began again to perform its function. Ewald, therefore, concludes that they must be formed in the alimentary canal.

3. *Langendorff on the Pancreatic Digestion of Birds.*—The pancreas of the pigeon is, according to Langendorff, comparatively large (1-125th to 1-78th of the weight of the animal), is readily exposed, and the birds bear the opening of the abdomen well. The secretion, obtained through fistulae, is clear, slightly acid, and most usually thin. When dropped into water a white clouding takes place, which clears up on saturation with acetic acid, showing the presence of myosin or paraglobulin. The secretion has a strong saccharifying action; it breaks up neutral fat readily; but, on the other hand, it does not act on

fibrin so strongly as pancreatic secretion of the dog does. Experiments showed that the action of curara, atropin, nicotin, and pilocarpin was insignificant, the first two causing diminution of the secretion.

6. *Schmidt-Mülheim on the Digestion of Albuminous Bodies.*—The author fed dogs, which had fasted for two days, on 200 grammes of horseflesh, and then, having killed the animals after varying periods, he examined the contents of the stomach and intestines. The gastric digestion goes on longer than is generally supposed. Nine hours after a meal of finely minced boiled meat, some remained undigested in the stomach, and it was not till twelve hours after the commencement of the meal that the stomach fully emptied itself.

7. *Bókay on the Chemistry of the Sputum.*—In eight cases of different bronchial and pulmonary affections, the organic constituents of the sputa were quantitatively determined. Free fat was found in all, without exception, more especially in well-marked cases of pulmonary phthisis. Cholesterin was also never absent, and was in greatest amount in croupous pneumonia, least in advanced phthisis. The quantities of lecithin and nuclein varied, as was to be expected, with the quantity of pus-corpuscles in the sputa. Of albuminous bodies there were found serum-albumin, globulin, and a substance resembling myosin.

8. *Munk on the Significance of Glycerine in the Animal Body.*—Glycerine, as is well known, is constantly found, though only in small quantities, in fermented drinks, and also in fats taken as nourishment, which are invariably to a certain extent decomposed. From this point of view, Munk has made investigations to find what the influence on the general metabolism of the bodies, glycerine exerts when administered in quantities too small to cause albuminuria. The addition of glycerine to the food given to dogs did not in any respect influence the quantity of nitrogen eliminated. Glycerine is, therefore, not a food in the strict sense of the word. It was not eliminated by the urine, and therefore it must undergo complete decomposition in the body.

9. *Bleile on Sugar in the Blood.*—The quantitative determination of the sugar in blood was performed by Sachse's method (rubbing up the blood with a solution of iodide of mercury), after it had been freed from albumen by boiling. The small quantity of pepton present was shown to be without influence by separate observations. If the blood were allowed to remain at rest at the temperature of the room, the quantity of sugar was not changed after five hours' standing; but, after being shaken violently for three hours, the quantity diminished from 0.197 to 0.170 per cent. There seemed reason to believe (though this was not absolutely proved) that Von Mering is right in supposing that, as a rule, the sugar is contained in the serum, and not in the corpuscles.

11. *Hoppe-Seyler on Fermentation.*—As the result of certain observations, the author concludes that: 1. Certain hydrocarbons and glycerine pass over into lactic acid through the action of strong alkalies as well as of fermentation; 2. Under the same influences, lactic acid, and also certain hydrocarbons give rise to a series of fatty acids; 3. These acids arise in part by synthesis; 4. These fatty acids are found always along with hydrogen and formic acid, which latter breaks up into hydrogen and carbonic acid; 5. By the fermentation of glycerine, hydrocarbons, and lactic acid, there are formed also certain alcohols, some of which contain more than three

atoms of carbon. These facts throw light on the formation of fat from hydrocarbons in the animal body.

13. *Weyl and Von Anrep on the Excretion of Hippuric and Benzoic Acids in Fever.*—A normal rabbit, when fed on milk and oats, invariably excretes benzoic acid. When the temperature was elevated, it was found that the quantity of free benzoic acid excreted rose, while that of benzoic acid in combination with other substances sank. It is thus not an actual increase, but a different arrangement of the acid which takes place during fever. Dogs were found to excrete less hippuric acid during fever than in the normal state. In these experiments (of which the authors only give as yet a very brief outline) the fever was produced by the subcutaneous injection of good pus.

14. *Nencki on Bacterial Life in the Absence of Oxygen.*—Gunning had arrived at the result that decomposition, by the agency of bacteria, does not take place when there is complete exclusion of air. Nencki, however, supposes that this result is brought about by the accumulation of volatile substances, the escape of which is prevented by the means used to exclude air, and which destroy or render inert the bacteria present. He has experimented with the juice of the pancreas, with gelatine, and with albumen, the fluid in each instance being completely shut off from the oxygen of the atmosphere by means of a layer of pyrogallic acid; the air being previously completely removed from the apparatus by means of a pump. In every instance well marked decomposition takes place. But, according to Nencki, hermetically sealed fluids also decompose, and he attributes the final cessation of the process of decomposition to the formation of certain antiseptic substances, such as phenol, indol, etc. The failure of the experiments of Gunning he ascribes to the fact that bacteria, which give rise to decomposition, are of very various kinds.

15. *Gunning on Bacteria.*—In reply to the paper, an outline of which we have just given, Gunning asserts that by no aspirator or air-pump is it possible completely to free a flask of air; there always remains some oxygen, which, though small in quantity, suffices to sustain bacterial life. The experimental proof of this assertion is given in the original.

16. *Nencki and Schaffer on the Chemical Composition of Bacteria.*—The separation of the bacteria out of a solution of gelatine was accomplished by the action of dilute acids (particularly hydrochloric acid) at a boiling temperature. In this way they are thrown down, and can be caught in a filter and thoroughly washed. The dried bacteria give up fat to a mixture of ether and alcohol, the amount differing under various circumstances. When the fat has been removed, the bacteria form a whitish grey, somewhat felt-like mass, which dissolves (with the exception of a small remainder) in a dilute solution of caustic potash, after digestion for some hours on the water-bath, and this without the formation of ammonia or of sulphuretted hydrogen. The filtered solution is somewhat more than neutralised with hydrochloric acid, and then decomposed with a concentrated solution of common salt, whereby the 'myko-protein' is precipitated in white amorphous flakes. It can be washed with salt solution. The myko-protein contains 55.24 per cent. carbon; 7.64 per cent. hydrogen; 13.65 per cent. nitrogen. Its formula may be set down as $C_{25}H_{42}N_6O_9$. It contains no sulphur, nor does phosphorus appear to belong to its constitution. Freshly separated myko-

protein is readily soluble in water, acids, and alkalis. Its solution in water has an acid reaction, and is left rotatory. Ferrocyanide of potassium, tannic acid, picric acid, and perchloride of mercury produce well-marked precipitates when added to a solution of myko-protein. When warmed with Millon's reagent, it gives a red, and with sulphate of copper and caustic soda a violet colour. The residue, which remains undissolved when the bacteria are treated with caustic potash, represents only 7.4 per cent. of the total weight of the mass. This substance forms the membranes of the bacteria, and when boiled with acids it gives rise to a saccharine body.

17. *Bovet on the Antiseptic Properties of Pyrogallic Acid.*—The theory from which Bovet starts is, that the bacteria of putrefaction break up water into hydrogen and peroxide of hydrogen, which then breaks up into water and oxygen. The pyrogallic acid takes up oxygen; and hence the author expected that the oxidising and decomposing powers of these organisms would be counteracted by the addition of pyrogallic acid. To prove this, he experimented with pancreas, and found that portions of the fresh gland, when placed in a 1 per cent. solution of pyrogallic acid, remained unchanged during the time they were under observation (twenty days), and no bacilli appeared. In a $\frac{1}{2}$ per cent. solution, the formation of such organisms took place very slowly, at blood-heat. Strong solutions of pyrogallic acid arrested decomposition in pancreas, when that change had already been allowed to proceed far. Pyrogallic acid was also found to be able to prevent alcoholic fermentation, and the ammoniacal fermentation of urine. As a deduction from these observations, Bovet recommends the cautious use of pyrogallic acid in therapeutics, and details a case of ozæna where injection of a 1 or 2 per cent. solution proved useful.

18. *Sieber on the Antiseptic Action of Acids.*—In open bowls, of a capacity of half a litre, 300 cubic centimetres of dilute acids were digested at a temperature of 40 to 45 deg. C. (104 to 113 deg. Fahr.) along with 50 grms. of pancreas minced small, and the contents examined microscopically from day to day. Each experiment lasted about a week. It appeared that a very small proportion of acid—5 per cent.—was sufficient, completely to prevent putrefaction. The mineral acids acted thus; also acetic acid, and to a less extent, butyric acid. The action of lactic acid and of boracic acid was much weaker.

19. *Egger on Bilinic Acid, a New Oxidation-product of Cholic Acid.*—This new product Egger obtains by the gentle oxidation of cholic acid (30 grms. of cholic acid, 60 grms. of bichromate of potassium, 32.5 cubic centimetres of concentrated sulphuric acid, diluted with eight times its volume of water), in the form of small white needle-shaped crystals, which are readily soluble in water, with greater difficulty in alcohol and ether. They fuse at 190 deg. Cent. (376 degs. Fahr.), have a composition represented by the formula $C_{16}H_{22}O_6$, and they do not give Pettenkofer's reaction for bile-acids. The acid is dibasic, and its salts are amorphous. By higher oxidation it passes into cholestearinic acid, which Tappeiner has already obtained direct from cholic acid.

20. *Wernich on the Aromatic Products of Putrefaction in their Action on Bacteria.*—The well-known fact that the life of bacteria ceases after a certain time in a fluid which has contained these organisms, depends partly on exhaustion of the nutriment which the fluid contains, and probably partly on the accumulation in that fluid of certain aromatic sub-

stances which arise during putrefaction (as Baumann has shown), and which are destructive of the life of bacteria. The present article gives the results of experiments as to the action on bacteria of certain of these substances, viz., phenyl-propionic acid (hydrocyanic acid), phenyl-acetic acid, indol, thymol, skatol, kresol, phenol, and another substance which has not yet been named, but which Salkowski has found as a product of pancreatic digestion. As to the methods of observation, they were those usually adopted in the investigation of bacteria, and almost identical with those described by Buchholtz. All of these substances were found to possess the power of destroying the life of bacteria, if the solution were strong enough. They arranged themselves somewhat differently in point of strength, according as they were mixed up with the infecting (bacteria-containing) fluid, or with the nutritive fluid; and for the exact order, under these various circumstances, the original must be consulted; but, speaking roughly, it may be said that skatol, on the whole, proved itself to be strongest, while phenol was weakest. One conclusion drawn from these experiments is specially worthy of notice; and that is, that while very small quantities of these poisons, when mixed with a fluid, render it impossible to propagate bacteria in that fluid, it requires four times as much, or even more, to destroy bacterial life where these organisms have already implanted themselves.

21. *Jaksch on the Micrococcus Urea.*—Cultivation of this organism in artificial fluids showed that, in addition to two organic acids and urea, still another organic substance was required. The maximum of temperature which the organism was able to sustain was found to be 30 deg. Cent. (86 Fahr.), but cold of 15 deg. Cent. under zero (5 Fahr.) was not fatal. The organic substances used for nourishment of this micro-organism were acetic, citric, lactic, malic, and tartaric acids, and sugar. The salts of formic and butyric acids, with fixed bases, were not so suitable; and quite unsuitable were oxaminic acid, the oxalates, and the ammonia salts of formic, acetic, and butyric acids. The salts of the aromatic acids (with the exception of hippuric acid) are not good nutritive substances.

22. *Mayer on the Influence of Increased Imbibition of Water on the Tissue-change.*—In this preliminary note, Mayer gives the results of experiments on a dog. 1. Increased consumption of water was not necessarily followed by increased nitrogenous elimination. 2. If, nevertheless, a connection did appear to exist on certain days of experimentation between these two quantities, this did not depend upon a greater breaking up of albumen in the body, but upon the fact that the urine, being larger in amount, washed out more urea and other nitrogenous bodies, which hence caused a transitory increase of the nitrogen eliminated. 3. The imbibition of more water increased the urinary secretion, and that to a greater extent than the increase of water accounted for. 4. A connection between the water taken into the system and the perspiration was not detected in animals in which there existed a 'nitrogenous equilibrium'.

25. *Andeer on Resorcin.*—This substance, which is nearly related to phenol, is a powerful antiseptic. A solution of 1 per cent. prevents septic decomposition. In all degrees of concentration, pure resorcin coagulates egg-albumen. It is an excellent cauterising agent for diseased tissues. To a certain extent, resorcin acts also as a styptic, and emulsifies fat.

THE PHYSIOLOGICAL ACTION OF DRUGS. RECENT PAPERS.

1. LEWIN, L.—On the Action of Xanthogenic Acid and its Alkaline Salts on the Animal Economy, and on the Poisonous Action of Bisulphide of Carbon. (*Virchow's Archiv*, Band lxxviii, p. 113.)

2. MCKENDRICK.—The Physiological Action of Anæsthetics. (*Proc. Royal Institution of Great Britain*, 1879, p. 171.)

3. YVON.—On Saline Purgatives. (*Bull. de l'Acad. de Méd.*, Feb. 1880.)

4. YVON.—On the Absorption of Purgatives. (*Ibid.*)

5. LADENBURG.—On Artificial Alkaloids. (*Bericht der Deutschen Chem. Gesellschaft*, 1880, No. 1, p. 104.)

6. ROBERT and KÜSSNER.—The Experimental Action of Oxalic Acid. (*Virchow's Archiv*, Band lxxviii, p. 209.)

7. LELOIR.—Clinical and Experimental Researches on Poisoning with Aniline. (*Gaz. Méd. de Paris*, 1879, No. 41; 1880, No. 4.)

8. HOLMHORST, E.—On the Influence of Disinfectants on the Coagulation of the Blood in Living Animals. (Königsberg, 1880.)

9. SALKOWSKI, E.—On the Action of Benzoate of Soda. (*Virchow's Archiv*, Band lxxviii, p. 30.)

10. RINGER and MORSHEAD.—On the Relative Paralyzing Action of Atropia and Pilocarpine on the Heart. (*Journal of Physiology*, vol. ii, p. 235.)

11. RINGER.—On the Antagonism of Aconitia on the Heart of the Frog. (*Journal of Physiology*, vol. ii, p. 436.)

12. GUTTMANN, P.—On the Excretion of Sugar in a Case of Diabetes Mellitus under the Influence of Salts of Ammonia. (*Zeitschrift für Klin. Med.*, Band i, p. 611.)

13. PANTELEJEFF, S.—On Chloride of Quinine and Sulphate of Atropine. (*Centralbl. für die Med. Wissensch.*, 1880, p. 529.)

14. SCHARRENBROICH, C.—On Quinine. (*Archiv für Exper. Pathologie und Pharm.*, Band xii, p. 33.)

15. BUNGE, B.—On the Action of Cyanogen on the Animal Organism. From the Pharmacological Institute of the University of Dorpat. (*Archiv für Exper. Pathol. und Pharm.*, Band xii, p. 40.)

16. VALENTIN, G.—On Strychnine. (*Archiv für Exper. Pathol. und Pharmacie*, Band xii, p. 97.)

17. ECKHARD, F.—On the Influence of Chloral-hydrate on artificially produced forms of Diabetes. (*Archiv für Exper. Pathol. und Pharm.*, Band xii, p. 276.)

18. SPILLMANN, P.—Studies on the Action of Pilocarpin. (*Archives Générales de Médecine*, 1879.)

19. HARNACK and MEYER.—Investigations concerning the Action of the Alkaloids of Jaborandi, along with some observations on the Nicotin Group. (*Archiv für Exper. Pathologie und Pharm.*, Band xii, p. 366.)

20. GIES, TH.—On the Action of Carbolic Acid on the Animal Organism. (*Archiv für Exper. Pathol. und Pharmacie*, Band xii, p. 401.)

21. SOLOWEITSCHYK, ISAAC.—On the Action of the Salts of Antimony on the Animal Organism. (*Archiv für Exper. Pathologie und Pharm.*, Band xii, p. 438.)

1. *Lewin on Xanthogenic Acid, and on Bisulphide of Carbon.*—Xanthogenic acid is straightway split up, in the organism, into bisulphide of carbon and alcohol. Thus there follows (if a lethal dose have been administered) an action upon the blood, which shows itself by the appearance of an absorption-band between Frauenhofer's lines C and D. This arises from the solution of the red blood-corpuscles. Of the two components of xanthogenic acid, only bisulphide of carbon possesses the power to produce this change in the blood outside the body, and thus it is to this substance that this change is to be ascribed. Bisulphide of carbon does not give rise to this band in the blood when it is administered by itself to the animal, but it has the power so to act only when, as in the present instance, it is liberated

in the tissues themselves from some complex combination. After the administration of xanthogenic acid in sufficient doses, complete anæsthesia of the whole body sets in, as has been observed in the human subject in cases of poisoning with bisulphide of carbon. Animals poisoned with xanthogenic acid die of asphyxia, the direct result of paralysis of the respiratory centres brought about by the action on the blood of the bisulphide of carbon. Animals poisoned with already prepared bisulphide of carbon die with similar symptoms. This substance does not break up into sulphuretted hydrogen and formic acid in the blood. The alkaline salts of xanthogenic acid, when injected subcutaneously, cause diarrhœa and vomiting, without producing any apparent pathological change. These salts are capital disinfectants and preserving agents.

6. *Robert and Küssner on the Action of Oxalic Acid.*—The results of detailed experiments lead to the following conclusions. Oxalic acid is not a poison to the heart; its primary action is on the central nervous system. This leads to irregularity and retardation of the pulse, sinking of blood-pressure, and slowness of respiration. Beyond this, there are indications of irritation and depression of motor, sensitive, and reflex nerves. There are in addition certain symptoms which are typical of oxalic acid poisoning, in particular in the urine and kidneys. In the urine there appears a powerful reducing substance, the exact nature of which was not determined, along with albumen, cylinders, blood-corpuses, and invariably oxalate crystals of the well-known form. These crystals are to be seen in the renal tubules.

9. *Salkowski on the Action of Benzoate of Soda.*—The author finds that the nitrogenous elimination by the urine is greatly increased by the administration of benzoate of soda. On normal days the urea excreted averaged 7.20 grammes, while when this salt was administered it rose to 11.48 grammes. A comparison of the sulphuric acid eliminated on the various days shows that this increase of urea is derived from an increased destruction of the albumen of the body. Salkowski points out that in cases of consumption this is a very undesirable result, and serves to contra-indicate the use of the drug in such cases. He calculates that the administration of benzoate of soda for one week would give rise to a loss equal to one kilogramme of muscular tissue.

12. *Guttmann on a Case of Diabetes treated with Ammonia-Salts.*—Adamkiewicz published the results of treatment of cases of diabetes with chloride of ammonium and citrate of ammonium, in which the excretion of sugar was much reduced by the use of these medicines. Guttmann has made use of this form of treatment without result. Particulars of the case are given very minutely, and the results may be summarised as follows. During the first five days of treatment with chloride of ammonium, the amount of sugar excreted in the urine was considerably higher (viz., 15.3 grammes *per diem* more) than it had been on the preceding days. Four days were then allowed to elapse without the administration of the salt, and then it was given again for a period of five days. On these days the sugar was very slightly reduced in quantity (17 grammes lower). Again there followed four days without treatment; and after that, citrate of ammonium was given for three days without diminishing the amount of sugar to any marked extent.

13. *Pantelejeff on Chloride of Quinine and Sulphate of Atropine.*—A large number of experiments

on dogs, rabbits, and frogs, shewed that there was a certain antagonism in the action of chloride of quinine and sulphate of atropine. In summer frogs, it was found that an injection of atropine immediately removed the diastolic arrest of cardiac action which had been occasioned by a previous injection of quinine. It appeared as if the blood-pressure upon the heart-wall had become too great, and in this way prevented the cardiac contraction. But when the atropine was injected before the quinine, it was found that the latter drug prevented the accelerating action of the atropine. In the winter frog, only a retardation of the cardiac contractions was observed to follow the injection of quinine. The arrest of the heart's action did not come on rapidly, and only ensued after very large doses, along with complete loss of reflex sensibility and death. The injection of atropine did not remove this condition, but, on the contrary, retarded the heart's action still more. Microscopic observation of the web showed that after quinine the small arteries contracted to a half of their previous diameter, while atropine caused dilatation. In rabbits, when the heart's action has been arrested by the use of quinine, the injection of atropine causes it to contract again, first the auricles and then the ventricles. After the injection of quinine into the crural vein of the dog, there is first a sudden fall in the blood-pressure and retardation of the heart's action, but in a few seconds the pressure rises, and that to a point higher than before the injection; this the author explains by supposing that there is first a contraction of the small vessels of the lungs. This gives rise to an obstruction to the circulation in the left side of the heart; then the general arteries of the body contract, and the result is an elevation of the blood-pressure. Larger doses have a direct action upon the heart, so that later there comes on a fall of pressure. The vagi remain excitable for electric stimuli; but the section of these nerves has no great influence upon the pulse, particularly if the respirations have been rendered slow by the action of quinine. In the dog, Pantelejeff only once observed atropine excite cardiac contractions when they had been arrested by means of quinine.

15. *Bunge on the Action of Cyanogen.*—Frogs were placed under a bell-glass and subjected to the action of this gas. Whenever the gas entered the glass, the frog exhibited great restlessness, which gradually ceased when it was found that the breathing had ceased. Movements became gradually more difficult, and at last ceased entirely. When this point was reached, the cardiac action ceased. The action, therefore, of cyanogen on the central nervous system and locomotory apparatus consists in a general central paralysis, which becomes complete in from 10 to 60 minutes, and which does not at first affect the excitability of the peripheral motor apparatus—the motor nerves, and the voluntary muscles: these are capable of being excited by the electric current, although general paralysis has set in. Cyanogen has also a specific action upon the substance of the striped muscles, which soon become rigid and lose their irritability. The action of cyanogen upon the frog's heart was found to be as follows. As soon as the poison began to act upon the frog, there was immediately an increase in the rapidity of the heart's action, and the systole began more powerful—the diastole appearing shortened. The larger the dose of cyanogen, the more rapidly was this condition followed by one in which the cardiac pulsations became slow, and lost power more and more, until complete diastolic arrest occurred. The heart was then found

filled with clear cherry-red blood. This blood showed the absorption-bands of oxyhæmoglobin; but Bunge does not believe that it owes its bright colour to containing a large amount of oxygen, since in curarised frogs with a venous condition of blood, owing to arrested respiration, the blood assumes the above described clear red hue when cyanogen is administered. From these observations the author concludes that the primary accelerating action on the heart is due to stimulation of the intracardiac ganglia, or of the cardiac muscle, which in the later stages gradually passes into paralysis. In warm-blooded animals (cat, rabbit, mouse), Bunge found that cyanogen killed by respiratory paralysis, preceded by great dyspnoea; and he concluded that this action was due to a direct action upon the respiratory centres, since it occurred equally whether cyanogen were given in inhalation or subcutaneously. General convulsions were duly developed in a rudimentary form. Cyanogen gave rise to a considerable acceleration in the pulse, but latterly there was a fall in blood-pressure and decrease in the frequency of the pulse, and this most probably as a result of an action upon the vaso-motor centres as well as directly upon the heart itself. As compared with the action of hydrocyanic acid, that of cyanogen is less violent, and is extended over a longer space of time. Its toxic action is also less in degree than that of hydrocyanic acid. A cat will be killed with certainty by 0.004 gramme of the latter, while of cyanogen 0.02 gramme is required. In the nature of their action on warm-blooded animals the two poisons agree.

16. *Valentin on Strychnine*.—These experiments were made on freshly caught frogs in October and November. In some instances, the animals after receiving a dose of strychnine at once appeared as dead, responding in no way to shaking or pinching. After a series of hours, however, this condition passed away, and gradually, little by little, the frog recovered. In other cases, however, the animal, if left alone, shewed no sign of life, but instantly responded to any shake, until at last after a number of days this action was lost and death ensued.

17. *Eckhard on the Influence of Chloral on Artificial Diabetes*.—In a former series of experiments, the author had satisfied himself that a certain amount of antagonism existed between the action of picrotoxin and chloral, and, since both these poisons attack the medulla oblongata, he thought it might be interesting to see whether chloral influenced the effects of other lesions in this neighbourhood, particularly the injury to the floor of the fourth ventricle which Bernard discovered to produce glycosuria. Rabbits were used for these experiments, and it was found that previous administration of chloral-hydrate prevented the appearance of sugar in the urine. Diabetes was then produced in dogs by inhalation of carbonic oxide gas, but over this form of glycosuria chloral did not appear to have any influence. For the purpose of accurate comparison, it was unfortunate that the same kind of animal could not be made use of for both series of experiments, but it was found that rabbits did not survive the inhalation of the carbonic oxide gas long enough. If this source of error be neglected, these observations appear to show that there exists a distinct difference between these two varieties of artificial diabetes.

19. *Harnack and Meyer on the Alkaloids of Jaborandi*.—In this very admirable article, the authors show that jaborandi contains, besides pilocarpin, another alkaloid, which they have named jaborin. These it was possible to separate, and so to examine

the distinctive actions of each. The jaborin was found to act exactly as atropin does; on the heart of frogs and of warm-blood animals, on the pupil, the salivary glands, the intestines, and central nervous system, the action was completely analogous. Jaborin also, like atropin, was found to antagonise the action of muscarin. Since many of the preparations of pilocarpin sold are adulterated with jaborin, this explains the varying results obtained by different experimenters. The authors next proceed to examine minutely the various actions of pilocarpin. 1. *On the Heart*. In warm-blooded animals the blood-pressure sinks immediately after the intravenous injection of pilocarpin, and the pulse is rendered slow, but very soon the pressure rises again to normal; convulsions set in which interfere with the respiration, and during these the blood-pressure rises above normal. With larger doses, the vagi lose their irritability and the blood-pressure sinks. Pilocarpin, therefore, acts at first by stimulating the vagus-endings in the heart, and, later, causes a paralysis of the vagi and of the vaso-motor centres. In its action on the heart (as in all its actions) pilocarpin closely resembles nicotin. 2. *On the Pupil*. The myosis occasioned by pilocarpin is well known. Albertoni and others have shewed that, when this myosis is most marked, irritation of the cervical sympathetic still gives rise to considerable dilatation, and this observation is confirmed in the present article. There can therefore be little doubt that pilocarpin causes contraction of the pupil by stimulating the oculo-motor nerve. 3. *On the Intestines and Uterus*. The diarrhoea which follows the administration of pilocarpin results from an increased activity of the peristaltic action. In this respect pilocarpin acts like nicotin and muscarin, inasmuch as the action is upon the intestinal ganglia, and not, as in the case of physostigmin, upon the muscular fibre of the bowel. Since atropin paralyses the ganglia in question, its action antagonises that of pilocarpin, nicotin, and muscarin, while it leaves the action of the Calabar bean untouched. Pilocarpin causes uterine contractions also. 4. *On the Secretions*. Pilocarpin increases the activity of the glands in general (salivary, sweat, mucous, and tear glands, pancreas, etc.). This action has certainly nothing to do with the vaso-motor paralysis which has been already referred to, since the latter only takes place after large doses, and in the later stages of the poisoning. It is due to a stimulation of the nervous apparatus of the glands—both central and terminal. 5. *On the Central Nervous System* pilocarpin only acts when the dose is large. Both in frogs and in mammals convulsions may be occasioned. The action appears to be primarily upon certain centres in the medulla. The latter part of this article consists of an extremely instructive comparison of the actions of the various alkaloids belonging to the nicotin group. The authors subdivide that group as follows: (1) Nicotin and pilocarpin; (2) Spartein, oxalathylin, and lobelin; (3) Coniin; (4) The pyridin bases. For further details, the original must be consulted.

21. *Solowewitschik on the Salts of Antimony*.—The results of these experiments are summed up as follows. Antimony occasions a steady fall of blood-pressure by causing vascular dilatation, and also, perhaps, by acting directly upon the heart. The central nervous system is also affected by the drug; and the vomiting and other intestinal symptoms result from extravasation of blood in and upon the mucous membrane. The action of antimony resembles closely that of arsenic and of platinum.

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PSYCHOLOGY.

RECENT PAPERS.

1. LEIDESDORF, MAX.—Contribution to the Classification of Insanity. (*Wiener Medizinische Wochenschrift*, April 3 and 10, 1880.)
2. PICK, ARNOLD.—A Case of Congenital Imbecility complicated by Traumatism. (*Prager Medicinische Wochenschrift*, March 10, 1880.)
3. PICK, ARNOLD.—Contribution to the Prognosis of Post-epileptic Insanity. (*Prager Medicinische Wochenschrift*, March 24, 1880.)
4. EDINGER, L.—A Case of Cortical Epilepsy (*Rinden-epilepsie*). (*Archiv für Psychiatrie*, Band x, Heft 1.)
5. RICHTER, F.—On Chronic Nicotin-Poisoning. (*Ibid.*)
6. LÖCHNER.—On Psychoses in Soldiers following Campaigns. (*Allgemeine Zeitschrift für Psychiatrie*, Band xxxvii, Heft 1.)
7. BARTENS.—On Insanity after Lead-poisoning. (*Ibid.*)
8. JEHN, GOTTFRIED.—On the Clinical Symptoms of Conditions of Reaction after Acute Delirium. (*Ibid.*)
9. BRUSHFIELD, T. N.—Medical Certificates of Insanity. (*Lancet*, April and May 1880.)
10. MORTIMER-GRANVILLE, J.—'Change' as a Mental Restorative. (*Ibid.*, June 12, 19, and 26, 1880.)
11. BAER.—On Drunkenness and Crime. (*Irrenfreund*, No. 4, 1880.)
12. TREICHLER.—The Danger of Habitual Head-ache and of Exerting an Exhausted Brain. (*Ibid.*)
13. DAVIES, W. G.—The Border-Land between Physiology and Psychology. (*Journal of Mental Science*, July 1880.)
14. RAYNER, H.; ROBERTSON, A.; SAVAGE, G. H.; and ATKINS, R.—Insanity from Lead-Poisoning. (*Ibid.*)
15. SAVAGE, G. H.—Insanity associated with Contracted Kidneys. (*Ibid.*)
16. BACON, G. MACKENZIE.—Notes of a Case illustrating the question of Criminal Responsibility. (*Ibid.*)
17. WORTHINGTON, T. B.—A Case of Epilepsy, terminated by Apoplexy, and complicated with Hæmorrhagic Cysts surrounding the Left Kidney. (*Ibid.*)
18. FOLSON, C. F.—Case of Delusional (Homicidal) Insanity with Hallucinations of Hearing and other Senses, Religious Fanaticism, and Murder of Child; the Mother being a Consenting Party. (*Boston Medical and Surgical Journal*, March 18, 1880.)
19. BEARD, G. M.—A Reply to Criticisms on 'The Problems of Insanity.' (*New York*, 1880)
20. EICHHOLT, A.—On the Etiology and Treatment of Refusal of Food in the Insane. (*Allgemeine Zeitschrift für Psychiatrie*, Band xxxvii, Heft 2.)
21. BERKHAN.—On Microcephalic Idiots. (*Ibid.*)
22. FRAENKEL.—The Influence upon the Brain of Abnormalities in the Position of the Large Intestine and Great Omentum. (*Ibid.*)

1. *Leidesdorf on the Classification of Insanity.*—In briefly reviewing various past and present systems of classification, Professor Leidesdorf (*Wiener Med. Wochenschr.*, April 3 and 10, 1880) remarks that the only points upon which all are agreed with regard to this question, are (a) that a classification based upon pathological anatomy is at present impossible; (b) that a purely etiological classification is quite insufficient; and (c) that a classification founded upon clinical symptomatology is therefore the only one practicable. The author then proposes to divide all forms of insanity into three great divisions; viz.: 1. Typical psychoses; 2. Atypical psychoses; 3. Definite forms of disease accompanied by psychic disturbance. Under the head of typical psychoses are included conditions of mental depression, exaltation, and weakness; i. e., melancholia, mania, de-

lusalional insanity (*Verrücktheit*), and dementia. The atypical psychoses are (a) periodical insanity, which may be (1) simple or (2) circular; (b) primary delusional insanity (*Verrücktheit*); (c) primary dementia. Under the third great division are classed (a) paralytic, (b) epileptic, (c) toxic insanity; under the last head are included chronic alcoholism, morphinism, poisoning by carbonic oxide, lead, etc. In dividing typical psychoses into conditions of mental depression, exaltation, and weakness, Leidesdorf follows Griesinger, but does not adopt his subdivision of these into primary (melancholia and mania) and secondary (delusional insanity and dementia), because it is now known that the two last-named conditions of psychic weakness may arise primarily. When they do exceptionally commence in this way, they are classed with the atypical forms. With regard to primary delusional insanity (without exaltation or depression), the author expresses his disbelief that a man, the condition of whose brain is intact, can become suddenly subject to delusions and hallucinations. His observations lead him to the conclusion that this form of insanity occurs only among (1) individuals who are, in the widest sense of the term, hereditarily predisposed, who have always suffered from some peculiar mental obliquity, who soon become delirious under the influence of fever, and who do not bear alcoholic stimulants well; (2) persons who have suffered during childhood from severe cerebral disease; or (3) people who during later life have received injuries to the head, or have been otherwise damaged by enteric fever, intemperance, etc. Cases are given in illustration of this view; and we are told that patients who are thus affected always exhibit abnormalities in the commencement and course of psychic disease. The periodic forms of insanity also commonly occur among patients of this class, which would thus appear to furnish almost all examples of 'atypical psychoses'.

2. *Pick on a Case of Injury to the Head occurring in an Imbecile.*—The author has previously pointed out that a very frequent symptom of traumatic insanity is to be found in the patient's consciousness of his own mental defects. The same often occurs in congenital imbecility, and the interest of the case now related (*Prager Medicinische Wochenschrift*, March 10, 1880) is due to the coexistence of congenital imbecility and traumatic insanity in one patient, who fully recognised the abnormality of his mental condition, both before and after the receipt of the injury to his head.

3. *Pick on Postepileptic Insanity.*—The author describes in detail (*Prager Medicinische Wochenschrift*, March 24, 1880) two cases presenting the characteristic symptoms of this disease, e.g., impulsive violence, a mixture of anxious and religious delusions, characteristic stupor and affection of speech, and a remittent course. It is pointed out that the diagnosis of epilepsy may be made with certainty from these symptoms alone, when the previous history is unknown, and before any epileptic attacks have been observed.

4. *Edinger on a Case of Cortical Epilepsy (Rinden-epilepsie).*—The author gives (*Archiv für Psychiatrie*, Band x, Heft 1) an account of the case of a phthisical man who suffered from fits; these commenced with slight twitchings of the muscles supplied by the right facial and hypoglossal nerves, and of the right extremities; gradual loss of consciousness followed, and a true epileptic seizure was developed. A gradual paralysis of the right arm took place;

atactic aphasia and various disturbances of sensation were also noted. Professor Kussmaul diagnosed the existence of tubercle in the left psychomotor region of the cerebral cortex. At the necropsy, a tubercle of the pia mater was found pressed in between the two central convolutions on the left side, invading the grey matter of both, but not involving the medullary substance at any point.

5. *Richter on Chronic Nicotin-Poisoning.*—Two cases are described (*Archiv für Psychiatrie*, Band x, Heft 1), one of which proved fatal, of chronic poisoning resulting from excessive smoking of strong cigars. The symptoms noted as being common to both were acute cephalalgia, vertigo, somnolence, apathy, psychic depression, amblyopia, obstinate neuralgia, tremor and contracture of certain muscles, weakness and often irregularity of the heart's action, sometimes palpitation, great emaciation, impotence, and occasional attacks resembling angina pectoris. In the fatal case there were also at times severe dyspnoea, total loss of appetite, and acute colicky pains. The diagnosis was rendered certain, in both cases, by the exclusion of all other possible causes of the symptoms, and by the rapid improvement which always followed a long abstinence from tobacco. The author believes that anæmia of the central nervous system plays an important part in chronic nicotin-poisoning; he found this condition well-marked at the *post mortem* examination of the fatal case. According to Hirschberg, the optic papilla is always found to be anæmic in these cases. Böck has published a case of tobacco-poisoning, in which hyperæmia of the brain and its membranes was observed after death; but Richter points out that the case in question was one of acute poisoning, and therefore in no way militates against his view. He believes that nicotin exerts a direct deleterious influence upon the elaboration of the blood, as well as upon the nervous system and nutrition generally.

6. *Löchner on Military Campaigns as a Cause of Psychoses.*—Dr. Löchner states (*Allg. Zeitschr. für Psychiatrie*, Band xxxvii, Heft 1) that during the ten years, 1870 to 1879, 35 patients have been admitted to the asylum at Klingenmünster, who took part in the Franco-German war. It is impossible, without further statistics, to say whether these figures of themselves point to an increased proportion of insanity as a result of the military campaign; but it is remarkable that 15 of the cases occurred in soldiers either during the war or before they had been dismissed to their homes; whereas only two or three cases have been admitted annually since. Of the 20 patients admitted from their homes since January 1872, 11 had lain for weeks or months in hospital during the war on account of wounds or sickness. The friends of many of the patients had remarked a change in their character and general behaviour immediately after their return from the campaign. A large proportion of the cases which occurred during, or immediately after, the war, ended in recovery, but those admitted during the last six years have been mostly incurable, a large proportion of them being general paralytics.

7. *Bartens on Insanity following Lead-Poisoning.*—Notes are given (*Allg. Zeitschr. für Psychiatrie*, Band xxxvii, Heft 1) of nine cases in which insanity was apparently due to lead-poisoning. Dr. Bartens describes two classes of cases due to this cause, the acute and the chronic. The former usually take the form of acute attacks of transitory mania; like cases of delirium tremens, to which they bear much resemblance, they seldom find their way into asylums,

and it thus happens that all the cases described in this paper belong to the latter, or chronic class. The acute cases mostly last only a few days, recovery being ushered in by a prolonged sleep; occasionally, however, they pass into chronic insanity, and a few patients die in consequence of paralysis, epileptic attacks, injuries sustained during the maniacal excitement, etc. The chronic cases usually take the form of profound melancholia with delusions, hallucinations, and unfounded suspicions of those around them. They are often acutely suicidal, and generally exhibit, in a greater or less degree, some of the paralyses and digestive disturbances characteristic of lead-poisoning. The prognosis in these cases is very unfavourable; only one recovery is reported. Dr. Bartens draws special attention to the deep and lasting impairment of nutrition in all his cases. He regards this as the chief cause of the unfavourable prognosis; the persistent disturbance of digestion and assimilation militating against the return of the nervous tissues to a healthy condition.

8. *Jehn on Reactionary Conditions following Acute Delirium.*—Dr. Jehn (*Allgemeine Zeitschrift für Psychiatrie*, Band xxxvii, Heft 1) says that acute delirium, when not fatal, is sometimes followed by a condition which is in some respects similar to that which often succeeds maniacal excitement. About the fifth or sixth week the patients become quieter; a marked slowness is apparent in their movements, as if they were in an extreme condition of fatigue; then there is gradually developed a general stiffness which affects both their motor and psychic functions; they remain for long periods in one posture, and, contrary to what is observed in catalepsy, offer considerable passive resistance to any change being made in their position. The author's patients lay in bed, with their heads held stiffly forwards without any support from the pillow; they maintained this uncomfortable position throughout the night for months together without exhibiting any signs of fatigue. Some of them were found at times in bed in a half-sitting, half-lying posture, such as could be only maintained for a short time and with great exertion by an ordinary person. Disturbances of nutrition were seen in the falling off of the hair, desquamation of cuticle, and atrophy of the muscles. The latter sometimes affected all one side of the body, sometimes only one limb, or a part of one. Very frequently a number of bullæ are developed; they are of sizes varying up to that of a hen's egg, and scattered irregularly over the body. Edema of the limbs is very common at this period; it occurs in any part of the body which occupies a dependent position for any length of time. The heart's action is feeble, and occasionally irregular. The expression of the features is always one of psychic pain and puzzle, quite distinct from the vacancy of dementia. The condition now described may last a year or longer, but gives place eventually to true dementia, in which all trace of facial expression or of muscular rigidity is lost. During three years and a half at Gräfenburg Asylum there have been eight cases of acute delirium; four proved fatal, and the remainder passed into the condition described above. A recovery from this stage has not yet been observed, but must not at present be regarded as impossible.

10. *Mortimer-Granville on 'Change' as a Mental Restorative.*—In this paper (*Lancet*, June 1880) the author protests against the indiscriminate prescription of 'change' of an indefinite nature for all cases of mind-weariness or incipient mental disease. Each

case must be carefully considered with special reference to the patient's past and present circumstances. When 'change' is ordered, there should be definite reasons for it, and the special kind of change from which good may be expected must be named. Three cases are given by the author in illustration of his views and advice.—CASE I. A middle-aged business man had been breaking down mentally for some time; 'change' of various kinds had been tried ineffectually. It became apparent that the very monotony of the patient's daily work had caused him to lose interest in it, and, consequently, all mental energy. The requisite stimulus was eventually found by setting him to start a new branch of the business; the activity required in doing this recalled his old powers, and restored him to mental vigour.—CASE II. A man of independent means, aged about 35, lost all energy; moving in the best of society, he had tried and exhausted every pleasure and dissipation; life for him was played out; in nothing could he take the slightest interest; 'change', in the form of foreign travel, was no change to him, it only 'bored' him. A latent spark of energy was, however, at last unearthed. His grandfather had been a great breeder of cattle, and the grandson was now induced to devote himself heart and soul to the same hobby, with the object of restoring the family name and credit in that connection; this was followed by the best results to himself.—CASE III. A statesman, aged about 50, broke down, apparently from over-work. 'Rest and change' were repeatedly ordered and resorted to; bodily health was restored, but mental energy did not return. After a time, a controversy arose which provoked and excited the patient, for the moment, as it appeared, injuriously. It, however, thoroughly roused him, and he returned to work with all his old power and earnestness. It is pointed out that in cases of mind-weariness, such as those related, we must not fear to recall painful thoughts, impressions, or circumstances, if these are likely to afford the necessary levers for setting in motion the dormant mental energies. Present pain and discomfort must be fearlessly caused, if they hold out any promise of good results in the future.

11. *Baer on Drunkenness and Crime.*—The author insists strongly (*Irrenfreund*, April 1880) upon the irresponsibility of persons for acts committed by them while under the influence of alcohol, even though only in a slight degree. He describes drunkenness as a form of temporary insanity, and suggests that it would be more just, and at the same time more efficacious in preventing intemperance, to inflict punishments for drunkenness itself, instead of as at present allowing, or even encouraging, people to get drunk and then punishing them for acts done while they are in an irresponsible condition. In a discussion which followed the reading of this paper, Professor Westphal pointed out most distinctly that drunkenness cannot be classed with ordinary mental disease, inasmuch as it is a condition voluntarily induced by the person affected.

12. *Treichler on Habitual Head-ache in Young Persons.*—The author draws attention (*Irrenfreund*, April 1880) to the fact that hitherto, in considering the hygienic conditions of school-life, attention has chiefly been paid to the bodily requirements of the pupils, although the great object of a school is to train the psychic, as distinguished from the physical faculties. He believes that habitual head-ache among children and young people has greatly increased in frequency of late years; numerous observations made in Paris, Darmstadt, etc., show that

about one-third of the pupils in schools suffer more or less from it. It leads to poorness of blood, and loss of cheerfulness and mental energy. Its chief cause is said to be overwork, and especially nocturnal study. The anatomical changes which accompany the more advanced stages of this habitual headache are, in the author's opinion: 1. Trophic changes in the ganglion-cells of the brain-cortex, caused by anæmia. An anæmic brain is much more easily exhausted by mental exertion than a normal one. 2. Passive dilatation of the cerebral blood-vessels and consequent stasis; the perivascular spaces round the capillaries become narrowed, the removal of waste products is thus hindered, and in this way again trophic disturbance is caused. Recent views, which regard progressive paralysis as commencing by vaso-motor trophic changes in the brain-cortex, parietic dilatation of the vessels of the pia mater, and degeneration of the cortex through lymph-stasis, increase the significance and importance of the conditions believed by the author to be brought about by prolonged habitual head-ache in young people.

14. *Rayner and others on Insanity from Lead-Poisoning.*—In this joint communication to the *Journal of Mental Science*, July 1880, Dr. Rayner gives some statistics which tend to show that painters, plumbers, and glaziers, furnish more than their proportionate quota to the insanity of this country. There seems to be no reason to believe that there is an excess of intemperance or of hereditary taint among men of this class, but rather the contrary; this affords a fair presumption that the excess of insanity is due to exposure to lead. Six cases are related by Dr. Rayner; and he infers from them, and from the records of Tanquerel and others, that there are three chief modes in which lead-poisoning may produce insanity, viz.: 1. Coarse lead-poisoning, producing attacks of acute mania and conditions closely resembling general paralysis, such as Tanquerel describes under the term lead-encephalopathy; 2. Cases of minute and protracted lead-intoxication, producing slowly developing sensory hallucinations, noticeable by the absence of the feeling of persecution, and by the persistence of the hallucinations of sight; 3. Cases in which somewhat coarse toxæmia in the first instance develops gout, and then, acting in conjunction with the gouty poison, produces a form of mental disorder closely resembling general paralysis.—Dr. Robertson gives six cases which he has met with during the last five years; they all occurred in women, and were due to working in a white-lead manufactory. He considers that none of his cases could have been mistaken for general paralysis by any one at all familiar with that disease.—Dr. Savage relates one case, and mentions several others; he recognises a similarity in the symptoms of insanity from lead-poisoning to those occurring from drink and those seen early in general paralysis.—Dr. Ringrose Atkins also describes one case; he and the other authors of this paper draw attention to the premature senility seen in patients who are insane from lead-poisoning; also to the severe disturbances of nutrition caused by the poison, which apparently has a special effect upon the nervous system. [See also Dr. Bartens' paper, No. 7 of this report.]

19. *Beard on the Problems of Insanity.*—The present paper, read before the New York Medico-Legal Society, is a reply to criticisms on Dr. Beard's previous paper on 'The Problems of Insanity'. It is devoted partly to a defence of the definition of in-

sanity then proposed, viz., 'a disease of the brain in which mental co-ordination is seriously impaired'. Dr. Beard admits that insanity is not a disease of the brain, but a manifestation of a diseased brain; he also confesses his inability to state what is meant by mental co-ordination; yet, notwithstanding these serious difficulties, he recommends medical experts to make use of this definition in the witness-box, when giving evidence as to sanity or insanity. A great part of the remainder of the paper is taken up by a discussion of the Gosling case (a recent American *cause célèbre*) in its relation to some of the propositions laid down in the 'Problems of Insanity'.

20. *Eichholt on Refusal of Food in the Insane.*—The author relates (*Allgem. Zeitschr. für Psychiatrie*, Band xxxvii, Heft 2), four cases of refusal of food in the insane, each of which was complicated by coarse lesions of the alimentary canal. In two cases these consisted of catarrh of the mouth and pharynx, with retropharyngeal abscess, and in the others there was malignant disease of the stomach. By referring to a great deal of literature on the subject, Dr. Eichholt finds that most authors hold forcible feeding of patients to be necessary in many cases, but that they avoid laying down any definite rules as to when this proceeding is to be adopted or avoided. The present author is of opinion that feeding by means of the œsophageal tube is resorted to more frequently than necessary; also that it not unfrequently does harm to the patient's mental condition: he draws a graphic, if somewhat fanciful, picture of the difficulties which may be met with in the operation. Refusal of food may occur either as a symptom or as a complication of insanity. It is a direct symptom when due to disturbances of deglutition, dependent upon cerebro-spinal lesions: this condition is seen in paralytic dementia, both in its acute and chronic forms. With regard to the acute form, the author follows Mendel in the belief that a large proportion of the cases described as acute delirium are in fact paralyses running a very acute course. Refusal of food occurs as an indirect symptom in various forms of insanity; in these cases it may be either (a) instinctive (in melancholia or dementia), or (b) may rest on a psychic foundation, viz., the delusions and hallucinations of melancholia or delusional insanity proper. Refusal of food is to be regarded as a complication when disturbances of the digestive functions are present, and either produce loss of appetite in the same manner as they might do in a sane person, or give rise to secondary hallucinations or delusions, and thus produce sitophobia. Dr. Eichholt regards the forcible alimentation of patients as a departure from the full development of the non-restraint system. He believes that, when the patient resists with all his powers, the procedure, by inducing a great degree of excitement, is apt to injure the prospect of ultimate recovery. He sees no objection to the operation in cases of general paralysis; he thinks that there is little danger of inanition in the passive, 'instinctive' self-starvation of melancholia and dementia, and that the stomach-tube need not be used in these cases. We are also told that, when refusal of food is due to delusion and hallucination, the tube will hardly ever be necessary. When affections of the alimentary canal are present, the physician must be guided by circumstances; if the upper part of the tract only be affected, the tube may be used, if force be not required for its introduction; in many cases, alimentation by the bowel will be preferable. It is only fair to say that the author quotes the view of Guislain and Leidesdorf, that forcible

feeding often contributes to the cure of mental disease by overcoming the patient's obstinacy and torpor, but expresses himself as unable to agree with it.

21. *Berkhan on Microcephalic Idiots.*—In the *Allgem. Zeitschrift für Psychiatrie*, Band xxxvii, Heft 2, Dr. Berkhan relates nine cases (males 3, females 6) of microcephalic idiocy; these were the only examples he found in about five hundred idiots. The literature of the subject is extensively reviewed, and special attention is drawn to Vogt's division of the cases into typical and atypical; according to him, the typical cases occur without any pathological influence whatever, and are to be regarded as reversions to previous lower forms of development, whereas the atypical forms are due to inflammatory processes or abnormal pressure during intra-uterine life. As a rule, the typical cases are to be sought among the more active and energetic patients of the microcephalic class; the atypical cases are usually more quiet and demented. From a pathological point of view, several groups of cases may be recognised: 1. Malformation of the skull, e.g., premature closure of the sutures preventing the proper development of the brain; 2. Cases in which the sutures remain open for years, and in which, therefore, the failure of development must be regarded as occurring primarily in the brain itself; 3. Cases in which hydrocephalus, asymmetry, or defect of certain parts of the brain occur as causes or accompaniments of microcephalic idiocy. Three chief distinctions are recognised as separating microcephalic from other idiots; these are—1. The very small size of the skull and brain; 2. A comparatively good physical development; and 3. The more frequent occurrence of the same affection in the brothers and sisters of the patient. This last circumstance is explained by the author as being due to the fact that a smaller proportion of microcephalic patients die in infancy, owing to their relatively robust constitutions. Some interesting observations are made as to the capabilities of microcephalic and other idiots to propagate their species. A semi-idiotic man has been married for some years to a healthy woman; there is no family. A healthy man, married to an idiotic wife, has had three children by her; two of them are idiots. These cases support Vogt's view, that while female idiots may bear children, the males are very frequently incapable of begetting them. Marriages are very rare between male half-cretins and healthy women, but are not uncommon between healthy men and semi-cretinous females who may happen to own a little property. The author has never seen the progeny of these marriages arrive at maturity; if not still-born, the children usually die during childhood.

22. *Fraenkel on Abnormalities of the Colon and Omentum as Causes of Reflex Psychoses.*—In this paper, which was read before the Berliner Psychiatrischer Verein (*Allg. Zeitschr. für Psych.*, Band xxxvii, Heft 2), Dr. Fraenkel revivifies, as it were, some of the old views as to the special relations of diseases of the alimentary tract to melancholia and other mental disorders. Esquirol and Schroeder van der Kolk fully recognised this relationship; but since the days of Griesinger it has been ignored. Besides the previously described lengthening, displacement, etc., of the colon, the author has frequently noted in his cases irregularities in the position, etc., of the great omentum; these had apparently never been described by Schroeder or other writers. Dr. Fraenkel considers them to be of greater significance

than the affections of the gut itself, inasmuch as adhesions and folding of the omentum must give rise to tension and pressure of the nerves contained in it. The peripheral irritation thus caused is perceived by the ganglion-cells of the brain-cortex, any part of which may in the author's view be affected, thus causing psychoses of all kinds. Twenty-five cases are tabulated in this paper; in six the omentum was rolled up and hidden behind the stomach and descending colon, the transverse colon was at the same time arched downwards; in four the omentum was affected as above, but the length and position of the colon was normal; in seven the omentum was shortened; in two it was adherent to the parietal peritoneum; in two it was adherent to the pubic bone; in one both colon and omentum were displaced upwards and to the left; in two the transverse colon was arched downwards, but the omentum only slightly displaced; in one the transverse colon was S-shaped, and displaced upwards and to the left, but the omentum covered the whole of the front of the abdomen. Among the above were nine cases of general paralysis, all of which exhibited during life either decided mental depression, or only very slightly developed large delusions. The cases given extended over about four years, and occurred among fifty necropsies made during that period, about half of which were cases of general paralysis. The author's conclusions are these. 1. Abnormal positions of the colon and great omentum may cause a psychosis, or unfavourably influence one which already exists. 2. Percussion of the abdomen is recommended for the diagnosis of this condition. 3. Cold wet compresses to the abdomen are frequently of use in the treatment. CHAS. S. W. COBBOLD, M.D.

OPHTHALMOLOGY.

RECENT PAPERS.

1. BADAL.—The Influence of the Diameter of the Pupil and of Circles of Diffusion upon Visual Acuity. (*Annales d'Oculistique*, May, June, 1880.)
2. HOCQUARD.—The Pathological Anatomy and Physiology of Staphyloma. (*Ibid.*)
3. ABADIE.—Partial Tenotomy of the Muscles of the Eye. (*Ibid.*)
4. MOOREN and RUMPF.—On Reflex Action in the Vessels of the Eye. (*Centralblatt für die Medicin. Wissenschaften*, No. 19, 1880.)
5. GRUENHAGEN and JESNER.—On the Production of Fibrin after Nerve-Irritation. (*Centralblatt für Praktische Augenheilkunde*, June 1880.)
6. OPPENHEIMER.—On the Anæsthetic Effect of Cold upon the Cornea as a Therapeutic Measure. (*New York Medical Journal*, July 1880.)
7. RISLEY.—On the Relative Value of the Sulphates of Atropia and Duboisia in Ophthalmic Practice. (*American Journal of Med. Sciences*, April 1880.)
8. NEELSEN and ANGELUCCI.—An Experimental and Histological Study of Keratoplasty. (*Klin. Monatsblätter für Augenheilkunde*, August 1880.)

1. Badal on the Influence of the Diameter of the Pupil, and of Circles of Diffusion, upon Visual Acuity.—Dr. Badal (*Annales d'Oculistique*, May, June, 1880), in discussing the influence exercised by circles of diffusion upon vision, and the relation existing between their size and the diameter of the pupil, shows, 1. that the magnitude of circles of diffusion is in a direct proportion to the diameter of the pupil;

2. that the diameter of circles of diffusion is greater in hypermetropia than in emmetropia, and greater in emmetropia than in myopia; 3. that, on the other hand, the image of any object is less in the hypermetropic than the emmetropic eye; and, again, less in this latter than in the myopic. He also calls attention to the fact, that when myopes close their lids, in order to diminish the size of the pupil, they necessarily induce a certain amount of astigmatism. As a matter of fact, by lessening the vertical diameter of the pupil, they lessen any error of refraction in that meridian, just in proportion as they narrow the palpebral aperture. On the other hand, the diffusion image is not lessened in the case of rays passing through the cornea in the horizontal plane. In such a case, therefore, the retinal image of a luminous point would no longer be a circle of diffusion, but a line, the length of which would stand in a constant relation to the real diameter of the pupil, while its thickness would be in relation with the extent of cornea uncovered by the eyelids.

2. Hocquard on the Pathological Anatomy and Physiology of Staphyloma.—The author, in this paper (*Annales d'Oculistique*, May, June, 1880), discusses the pathological anatomy of staphylomata of the cornea. He classes them under two divisions, namely—1. Where the cornea is thinned, and the iris is adherent to it, or has passed through it in the form of a hernia (myocephalon); 2. Where the cornea has become thickened: to these latter he gives the name of hypertrophic staphylomata. He enters at considerable length into the anatomical peculiarities of each of these groups respectively, examining (1) their anterior epithelial covering; (2) the changes undergone by the cornea propria; (3) the changes undergone by the iris lining the cavity of the staphyloma.

3. Abadie on Partial Tenotomy of the Muscles of the Eye.—Dr. Abadie, in the *Annales d'Oculistique* (May, June, 1880), urges, in certain cases of insufficiency of the internal recti, a partial tenotomy of their antagonists. He bases this teaching on von Graefe's doctrine, and recommends the revival of the method of partial division of the tendon, which that great master actually performed in one year as many as 120 times. Dr. Abadie has himself, of late, frequently performed the operation with very satisfactory results. His procedure is as follows. The first stage of the operation is the same as that for ordinary strabismus: the hook is passed under the tendon of the muscle, and any slight hæmorrhage at once restrained, for the operator must have a clear view of the tendon. The tendon is then snipped across about halfway, with sharp pointed scissors, commencing at the free border of the hook. A similar incision into the tendon is made in a direction towards the handle of the hook, a few tendinous fibres being left adherent to the sclerotic. In the last eight months, Dr. Abadie has performed this operation ten times, with the result of relieving asthenopia, due to insufficiency of the internal recti, in cases where prisms had completely failed. The great advantage of the treatment, according to the author, is that it is prophylactic, and can be applied at a very early stage, so soon, in fact, as any insufficiency of the internal recti becomes evident; that is the proper treatment to check the onset of those pathological changes which characterise progressive myopia. Once such changes as thinning of the membranes of the eye, atrophy of the choroid, lesion of the macula, and, finally, detachment of the retina have supervened, treatment is powerless. [In an

able note appended to this paper, M. Giraud-Teulon combats the author's conclusions, and points out that he has adopted von Graefe's earlier views, forgetting altogether that von Graefe himself abandoned partial tenotomy after an experience of ten years; and in his latest writings insisted on the necessity of a complete division and detachment of the muscle from its sclerotic attachments.—*Rep.*]

LITTON FORBES.

4. *Mooren and Rumpf on Reflex Action in the Vessels of the Eye.*—By means of a series of experiments, the authors have proved (*Centralblatt für die Med. Wissenschaft.*, No. 19, 1880) that direct irritation of the iris in the rabbit causes injection of the vessels of the eye irritated, and, at the same time, anæmia of the vessels of the fellow eye. This anæmia is followed by injection when the irritation ceases. By repetition of the irritation, it is possible to produce in the fellow eye discoloration of the iris, narrowness of the pupil, and turbidity of the aqueous humour. By the use of ether, anæmia is produced in the eye subjected to its action, hyperæmia in the other; and subsequently a reversal of these conditions occurs as before. The authors conclude that the vessels of the two eyes stand in a close antagonistic relation to each other, and that alterations in the amount of vascular contraction lead readily to inflammation, exudation of white corpuscles, and stasis of lymph. They maintain that the theory which explains sympathetic ophthalmia by reflex action from the ciliary nerves of the one side to those of the other, now rests upon a real and physiological basis.

5. *Gruenhagen and Fesner on the Production of Fibrin after Nerve-irritation.*—Experiments, performed by the authors, have proved (*Centralblatt für Praktische Augenheilkunde*, June 1880) that nerve influence, probably of the vaso-motor kind, has an important relation to the chemical constitution of the aqueous humour. Normal aqueous humour is free from fibrin, and never coagulates spontaneously after its removal from the eye. But if the ophthalmic division of the fifth nerve have been irritated previously, a fibrinous coagulum always forms. The aqueous humour from a freshly killed rabbit coagulates spontaneously if such irritation have been induced thirty to forty-five minutes previously, either by direct irritation of the cornea, by injury of the ophthalmic nerve within the skull, or by division of the hinder root of the fifth nerve in the medulla oblongata. The explanation is that irritation of the ophthalmic nerve induces dilatation of vessels, and consequent transudation of fibrin-generating elements. A second point of interest is, that irritation of one eye induces changes similar in kind, though slighter in degree, in the aqueous humour of the fellow eye also. The bearing of this discovery upon sympathetic affections of the eye is important. It points to a purely nervous influence, set up by a unilateral irritation, a reflex effect upon the vaso-motor nerves.

6. *Oppenheimer on the Anæsthetic Effect of Cold upon the Cornea, as a Therapeutic Measure.*—The method employed was to drop water, at the temperature of melting ice, by means of a dropper or sponge, upon the eye (the eyelids being held open by the patient himself, or by the attendant) for a few minutes every half-hour at first, later at longer intervals. Twenty-five cases were thus treated (*New York Medical Journal*, July 1880), comprising four of interstitial, two of diffuse (non-interstitial), and ten of phlyctenular keratitis; five of pannus, one of

inflamed staphyloma, and three of abrasion of the cornea. Much benefit as regards photophobia was obtained in most cases. In a case of suppuration of the cornea, the cold was borne badly and had to be discontinued. In carrying out the treatment, the chief difficulty was in making the patients open their eyes.

7. *Kisley on the Relative Value of the Sulphates of Atropia and of Duboisia in Ophthalmic Practice.*

—The writer sums up a long paper (*American Journal of Med. Sciences*, April 1880) with the following conclusions. 1. In solutions not stronger than two grains to the ounce, duboisia-sulphate is free from danger. 2. A two-grain solution of duboisia-sulphate paralyses the ciliary muscle more rapidly than does a four-grain solution of atropia-sulphate. 3. The duration of its effect is less than half that of atropia-sulphate. 4. The preparations now in the market are more liable to irritate the conjunctiva than neutral solutions of atropia-sulphate. 5. In the treatment of inflammations of the eye, duboisia is quite as useful as atropia, and may therefore be used as a substitute.

8. *Neelsen and Angeluccion Keratoplasty.*—A series of experimental operations, followed by microscopic examination of the parts, have led the authors to important practical conclusions (*Klin. Monatsblätter für Augenheilkunde*, August 1880) concerning the possibility of benefit by the transplantation of healthy corneal tissue into eyes which are blind through corneal opacity. When a portion of the cornea is removed, by the trephine or otherwise, the iris immediately applies itself to Descemet's membrane, and within a few hours becomes adherent to it by means of a fibrinous coagulum, which also fills up the whole of the corneal aperture. The aqueous humour is the chief source of the fibrin. The corneal epithelium surrounding the wound rapidly proliferates, and within a space of twenty-four to forty-eight hours covers the coagulum which fills the aperture. At this stage the appearance simulates that of an aperture closed by a well united graft of corneal tissue. Organisation of the coagulum then commences (fourth to sixth day) by the development in it of vessels springing from the tissue of the subjacent iris; a few days later vessels from the conjunctiva reach the margin of the coagulum, and aid in the process. Later, the vascularity subsides, leaving ultimately a white opaque cicatricial mass level with, or somewhat depressed below, the remaining cornea, and nearly equal in size to the original opening. The cell-growth, which completes the organisation of the cicatrix, proceeds from two sources—the subjacent iris, and the surrounding cornea; and two corresponding layers are discoverable with the microscope. The foregoing applies to cases in which a graft is inserted and at once escapes, as well as to those in which no graft is inserted. In cases of successful insertion of corneal tissue the process is very similar. The graft adheres to the margin of the aperture through the medium of a fibrin-coagulum. It commonly forms an adhesion also with the subjacent iris, and during the process of organisation receives its vessels chiefly from the latter. When no adhesion, or an insufficient adhesion, forms with the iris, the nutrient supply from the surrounding cornea does not suffice to maintain vitality, and the graft perishes in part or as a whole. When organic union of the graft is complete, and vascularity has subsided, a certain amount of transparency may be re-established in the implanted corneal tissue, but its inner surface

remains permanently lined with an opaque cicatricial tissue, derived from the granulations of the iris. The result of these experiments is summarised by the authors as follows. In the majority of cases, a part of the corneal graft perishes; the remainder becomes included in opaque cicatricial tissue. Union and preservation of the graft are possible only on condition that it is nourished not solely through its margin, but through its inner surface also, by means of pre-existing or newly formed tissue in contact with it. When union is complete, there is, therefore, beneath the graft, an opaque layer, which so far detracts from its eventual transparency, that the result is practically the same as that of an unsuccessful implantation. With regard to differences in the mode of carrying out the transplantation, the authors conclude that large grafts offer less chance of success than small ones; that the site of the implantation is a matter of indifference; that a trephine is the best instrument for the purpose; and that sutures offer no advantage. The operation of transplantation can, at the best, be of advantage in only a very few cases of dense leucoma, in which an increased perception of light might possibly be attained; whether as good a result in such cases might not be attained by simple removal of a portion of the opaque tissue without transplantation, remains doubtful. PRIESTLEY SMITH.

OTOLOGY.

RECENT PAPERS.

1. McLEOD.—Extracting Foreign Bodies from the Ear. (*British Medical Journal*, July 1880, p. 50.)
2. BELLUZZI.—A Case of Congenital Malformation of the Ear. (*Bullettino delle Scienze Mediche*, May 1880.)
3. VOLTOLINI.—Emphysema from Inflation of the Middle Ear. (*Monatsschrift für Ohrenheilkunde*, May 1880.)
4. MOOS, S.—On the Histological Changes in the Labyrinth in Hæmorrhagic Pachymeningitis. (*Archives of Otolaryngology*, June 1880.)
5. BURNETT, SWAN M.—Case of Primary External Inflammation of the Mastoid. (*Ibid*)
6. KNAPP, H.—On Heredito-Syphilitic Affections of the Ear. (*Ibid*.)
7. DILLS, T. J.—Case of Rupture of the Drum-head from a Box on the Ear. (*Ibid*.)

1. *McLeod on Extracting Foreign Bodies from the Ear*.—The plan that Mr. McLeod details in the columns of the *British Medical Journal*, July 1880, p. 50, is similar to that suggested by Dr. Loewenberg in the *Lancet*, June 1872, p. 774, viz., causing a tractor to adhere to the foreign body by means of glue or cement. A cherry stone was firmly impacted in the meatus. Mr. McLeod cut a small piece of leather, attached it to a thread, and covered it with a strong cement; pressing it firmly down on to the foreign body, he waited until the cement was set, and then, by firm and steady traction, removed the fruit stone.

RICHARD NEALE, M.D.

2. *Belluzzi on a case of Congenital Malformation of the Ear*.—Dr. Belluzzi records (*Bullettino delle Scienze Mediche*, May 1880) a case of malformation of the external ear in a child, with the results of a *post mortem* examination obtained subsequently. The cartilage was wholly wanting, and the auditory meatus imperforate, while no depression or other sign of a passage through the temporal bone could be discovered. On examination after death, the cavity of the tympanum was found much contracted, the mal-

leus was destitute of the processus longus, the stapes was divided longitudinally, the incus was normal. The labyrinth and Eustachian tube presented nothing remarkable.

LITTON FORBES.

3. *Voltolini on Emphysema from Inflation of the Tympanum*.—Professor Voltolini relates the following case of the above accident which he has recently met with (*Monatsschrift für Ohrenheilkunde*, May 1880). Mr. H. aged 28, suffered for several years from progressive deafness without definite cause. The watch was not heard with the left ear, and on contact only with the right. The auditory canals and membranes presented nothing abnormal. On catheterising, air passed into the tympanic cavities with a very weak stream. The finest bougies (India-rubber with olive-shaped ends) could only be introduced with difficulty, on account of either some narrowing or bending of the tube. Larger bougies were gradually introduced, with decided benefit to the hearing. One day, on inflating the right ear with the bag, after one of the thicker bougies had been passed, sudden pain in the throat was experienced, and emphysema could be felt extending to the lower part of the larynx on the right side and also above the larynx on the left side. No bad effects resulted from this. On the left side only the thinnest bougie was employed, but, in spite of this, one day, whilst air was being blown in with the bag, the patient jumped up suddenly and tried to spit something up out of his throat. On inspection, the uvula was found blown out with air into a white bladder. This was immediately relieved by a few snips with the scissors. The author thinks that this case speaks strongly against the use of the condensing-pump for inflation, which, if employed in this case, he supposes might have produced sudden death by emphysema in the larynx.

4. *Moos on the Histological Changes in the Labyrinth in Hæmorrhagic Pachymeningitis*.—Professor Moos, in an exhaustive paper (*Archives of Otolaryngology*, June 1880), gives an account of the changes found in the labyrinth in a case of this disease. It is impossible in the space of an abstract to give a full account of this paper. The author thus sums up his conclusions on the subject. The auditory disturbances in hæmorrhagic pachymeningitis are based on hæmorrhages by diapedesis into the labyrinth which accompany the meningeal hæmorrhages, and which, in repeated attacks, may lead to total destruction of hearing. The latter is caused by atrophic and degenerative processes in the labyrinth, in which both the trunk of the auditory nerve and its terminal expansion are pre-eminently involved, and in the occurrence of which the disturbances in the circulation of the blood and in the nutrition of the tissues form an important factor.

5. *Burnett on Primary External Inflammation of the Mastoid*.—Dr. Burnett (*Archives of Otolaryngology*, June 1880) reports the following case. A carpenter, aged 28, after exposure to cold, was seized with pain at the back of the ear, accompanied by swelling. The latter was first confined to the portion of the temporal bone behind and slightly above the auricle, but finally extended over the whole of the mastoid process and to the meatus. There was no evidence of existing or pre-existing disease of the ear. The membrana tympani was normal, the hearing power good. Formation of pus took place, but, all operative interference being refused, the abscess discharged in the course of ten or twelve days into the meatus, the matter coming from an opening just behind the cartilaginous portion of the external meatus from

above'. In the course of a week the discharge ceased, and recovery ensued.

6. *Knapp on Heredito-Syphilitic Affections of the Ear.*—Dr. H. Knapp (*Ibidem*) relates two cases which he considers typical of this affection. The first is that of a girl, aged 5 years, suffering from parenchymatous keratitis and iritis. Eighteen months after the onset of the eye-affection, when this was in a fair way of recovery, her hearing became suddenly so impaired that in five days she could not understand the loudest speech, although she could always hear the sound of the voice. There was some improvement in her condition after a week. When seen, her gait was unsteady and staggering, and there was evidence of catarrh of the middle ear. Treatment, commenced several weeks after the onset of the deafness, consisted, first of 12 grammes (about 186 grains) of iodide of potassium three times a day internally, and a Turkish bath twice weekly; subsequently, 2 centigrammes of calomel daily. In about four months, the hearing power was normal, and continued so. Tinnitus was absent in this case. The second case was also one of keratitis parenchymatosa, otitis media catarrhalis, and otitis interna heredito-syphilitica, in a woman aged 23. The inflammatory symptoms subsided under treatment, but the deafness remained unaltered. This patient was poor, and lived in very unfavourable hygienic conditions, in contradistinction to the first patient, who was the child of wealthy parents. This, as the author mentions, bears out Hinton's statement (*Questions of Aural Surgery*, p. 291) to the effect that the disease is more tractable in the better class of patients. Dr. Knapp also points out that this fact is suggestive of the proper treatment in these cases, and that it should encourage us to treat heredito-syphilitic deafness with circumspection and perseverance.

7. *Dills on Rupture of the Drum-Head from a Box on the Ear.*—Dr. Dills relates (*Archives of Otology*, June 1880) the case of a student, aged 16, who suffered from rupture of the left membrana tympani, the result of a sudden box on the ear from a fellow-student. He lost consciousness momentarily and afterwards complained of severe pain deep in the left ear, loud roaring noises, partial deafness, unsteadiness of gait, slight nausea and faintness. Two hours afterwards a clean straight fissure, 6 millimètres long, was found on the membrana tympani. It was horizontal in direction, its centre being 2 millimètres below the insertion of the handle of the malleus. On Valsalvan inflation, a small quantity of bloody serum escaped through the wound. There was granular pharyngitis, and the tonsils were enlarged. Three days after the accident the fissure had perfectly healed, and the subjective symptoms had in the main disappeared. Although the patient denied previous aural disease, the author subsequently observed what had been overlooked at the first examination, viz., increased concavity of the left membrane, foreshortening of the malleus, and increased prominence of the short process.

E. CRESSWELL BAEER, M.B.

REVIEWS.

Practical Lithotomy and Lithotriety. By Sir HENRY THOMPSON. Third Edition. London: J. and A. Churchill. 1880.

IT is ten years since the second edition of Sir Henry Thompson's *Practical Lithotomy and Litho-*

trity appeared. During this period, the surgery of stone in the bladder has undergone many changes, and as the experience of the author has now become unique, the publication of the third edition of this important work has necessitated much rewriting and the writing of at least one entirely new chapter. At the end of the book is an appendix, consisting of a table of five hundred operations for stone in the bladder performed by Sir Henry Thompson. This table contains an account of every male adult operated upon by him up to January 1877. The particulars of each case, and the after-history, as far as it is known, are given, and to every one attended in private is attached the name of the medical man with whom the patient was seen. The value of such a record systematically kept from the very commencement is great, and it affords ample material for the surgical inquirer. Sir Henry Thompson can desire no more permanent memorial than a complete and well authenticated record of his life's work in surgery, of which we hope these five hundred cases of operation are only a part.

There are many points of novelty and interest in the chapters devoted to Lithotomy. The account of the performance of the operation of lateral lithotomy is a model of what such a description should be; it is graphic, terse, and to the point, and young surgeons, about to sit down to perform the operation, will do well to read it. Mr. Buckston Browne's dilatable air-tampon is confidently recommended for any hæmorrhage after the operation, short of an arterial jet, that cannot be checked by ligature; and in consequence, all the directions relative to ice-bags, irrigation, etc., given in former editions are now omitted. In discussing difficulties in the performance of lithotomy, a new case of encysted calculus is described. On introducing the finger into the bladder, two-thirds of a large uric acid calculus were found, contained in a sac outside the cavity of the bladder; by carefully working the finger round the stone, it was turned out of its bed entire. Two very curious cases are also given (page 97) of stones encountered before reaching the bladder, apparently lodged in sacs outside the bladder, and communicating with the urethra.

It is, however, the latter half of the book, on Lithotriety, which will most interest Sir Henry's readers, for it is in the removal of stone by crushing that the greatest changes have lately taken place. Chapter xi, on Lithotriety at a Single Sitting, is entirely new. Here the author shows that, as anaesthetics came more and more into vogue, he was able to remove more stone at a single operation, and that he gradually came to use Clover's aspirator at every operation, until he always removed small stones at one sitting. Full credit, however, is given to Dr. Bigelow for having shown in 1878 that less damage accrued to the bladder by a long sitting, provided the viscus was emptied of *débris*, than by the old process of taking away little and often, and always leaving hard broken fragments in its cavity. Sir Henry Thompson very pertinently remarks that 'large instruments are wholly unnecessary for at least three-fourths of the stones which occur in practice'; he, therefore, disapproves of the enormous lithotrites used by Dr. Bigelow and his followers to crush small stones. He also by no means agrees with Dr. Bigelow that all stones should be removed at one sitting, and very wisely remarks that the surgeon cannot always conform to one precise method, which cannot always be applicable to the various conditions which occur in practice. Sir Henry figures and describes at length his new litho-

trite, which although light is still of great power, and his ingenious modification of Clover's aspirator. He appends a list, with all particulars, of thirty-five cases of stone 'removed by lithotrite and aspirator at a single sitting, or as nearly at one sitting as possible'. On page 180 are the author's well-known practical maxims for lithotritists, with this additional one. 'The aspirator is now the most serviceable instrument for removing all *débris*; and is at the same time the most efficient, as a rule, for revealing the existence of a last fragment as well as for taking it away.'

Sir Henry Thompson is to be congratulated upon the appearance of this new edition. It must have entailed hard labour upon one already sufficiently occupied by the cares of practice; but he will be rewarded by knowing that he has done his utmost to make the work thoroughly representative of the surgery of stone in the bladder at the present day, and that no practical surgeon can read the book without profit.

Lessons in Gynecology. By WILLIAM GOODELL, A.M., M.D., Professor of Clinical Gynecology in the University of Pennsylvania. Philadelphia: D. G. Brinton.

DR. GOODELL is well-known as one of the most successful teachers and brilliant writers in America, and hence any work of his is especially useful and welcome. In this work of 443 pages, the author has collected and arranged the clinical lectures on gynecology which he has delivered to his students in past years.

Dr. Goodell, like many others who had at one time wholly discarded the use of stem-pessaries, has reconsidered his position, and now states that 'there are certain stubborn cases of ante flexion, and, for the matter of that, of retroflexion too, which can be satisfactorily treated in no other way than by this stem'. He insists, however, on various precautions being necessary to its innocent use.

We have never read an account of the secondary operation for laceration of the female perinæum, which in so few words gave such a graphic and vivid description of the most minute details of this often tedious operation. As a specimen of clinical teaching it is a model. In those cases of endometritis which require intra-uterine medication, Dr. Goodell applies the various remedies to the uterine surface in a liquid state upon cotton-wool. He advises the applications to be made once a week, and to be constantly changed about from one to another. In order to insure a thorough cauterisation, it will often be advisable to make two or three applications, the one directly after the other, until the walls of the uterus are irritated into contracting down upon the probe, and gripping it; and also, when the cervical canal is not very patulous, to stretch it by the uterine dilator. To the last suggestion, however, we would venture to reply that in those cases where the cervix, especially at the internal os uteri, is too contracted as to admit the ready passage of the probe, the presence of the instrument there is hardly necessary. As a rule, those cases which require intra-uterine medication may almost be recognised by the very fact that the cervix is always more or less patulous and softened.

In this country there are several operations, gynecological and obstetrical, such as extirpation of the normal ovaries, or spaying as it is called, for fibroid disease of the womb; and Porro's operation for the removal of the uterus and ovaries in lieu of the ancient Cæsarean cut, which have not yet received the sanction by adoption of the leaders of the ob-

stetric department. Both of the above-named operations are, however, performed almost weekly in Europe and America. Dr. Goodell has performed the operation of spaying seven times, with two fatal results. Two of the cases were fibroid tumours of the uterus; of these one died. The third case, a single woman aged 27, suffered from menorrhagia and dysmenorrhœa. She was emaciated, weighing 67 pounds. She recovered, and has, sexually, 'simply reached the climacteric earlier than usual'. Case 4 was a married woman, aged 37, mother of three children. She suffered from acute menstrual pain. She was also emaciated. She died on the second day after the operation. Case 5. A single woman, aged 30, with chronic ovaritis, dysmenorrhœa, and menorrhagia, had become virtually bed-ridden, but recovered. Case 6. A single woman, aged 31, with prolapsed ovaries, was reduced to a living skeleton. She recovered; but, as the account only extends to three weeks after the operation, the result is unknown. Case 7. A married woman, aged 38, subject to hallucinations, recovered from the operation, but not from the hallucinations. The above seven cases, two of which ended fatally, one of which failed altogether to relieve the symptoms for which it was undertaken, and another of which the result is unknown, do not to our mind afford decisive proof of the value of an operation which may end fatally, and may fail, if it does not end fatally, to relieve the sufferings of the patient. Dr. Goodell states 'the operation of spaying is yet in its infancy, and time is needed to develop its resources. But I cannot help feeling that, in carefully selected cases, it will prove the sole means for curing many mental and physical disorders of menstrual life, which have hitherto baffled our science, and are a standing opprobrium to our profession'.

FANCOURT BARNES, M.D.

The Practitioner's Handbook of Treatment; or, the Principles of Therapeutics. By J. MILNER FOTHERGILL, M.D. Second edition. London: Macmillan and Co. 1880.

TO the great bulk of practitioners this work needs no introduction, being already well and favourably known to them. For that class, however, which is ever new, the educated but inexperienced practitioner, to whom Dr. Fothergill specially addresses himself, and to whom probably he is most useful, we may state something of the general character of the work, noticing at the same time the points new to the second edition.

The old system of apprenticeship, with its many drawbacks in comparison with our modern curriculum in medical schools and colleges, had yet certain very real advantages. With many gaps in the systematic completeness of their education, students had in those days strongly and practically impressed on them the necessity of studying closely the rational symptoms and the treatment of disease, whereas now, in hospitals and colleges, physiology, physical diagnosis, and pathology, occupy too exclusively the student's attention. The result of this too exclusive attention is, that most men, when they first enter practice, begin to think that scarcely a tithe of their laboriously acquired knowledge can ever be directly or indirectly embodied in their practice. With many, such is indeed the case, and a scrappy, more or less purely empirical system of treatment, is the result. Dr. Fothergill's work is intended, and has served, as a corrective to this state of matters. He

takes us with him to the bedside or to the out-patient department, and, standing before the patient, we have made for us, or are instructed how to make for ourselves, the *nexus* between our physiological and pathological knowledge on the one hand, and the symptoms and treatment on the other. This, as far as is possible, but where a purely empirical treatment has succeeded, that too has its due place and consideration. Dr. Fothergill recognises that our physiology and pathology are far in advance of our treatment, and they seem to be daily increasing the distance with rapid strides. It would seem as if the unsettled and engrossed life of the practitioner leads to a positive disinclination to arrange and formulate experience, so at least as to be accessible to others. This work, while it shows how much has been done, also to a certain extent indicates how much has yet to be done in the direction of a concrete application of our knowledge.

The plan of the work is, 'First the physiology of each subject is given, then the pathology is reviewed, so far as they bear upon the treatment; next, the action of remedies is examined; after which, their practical application in concrete prescriptions is furnished'. The material is well divided up, principal statements and subordinate details have their due space and emphasis, and a certain fitness of introduction and fluency in expression render the work very pleasant and easy reading. While prescription forms are given in number sufficient to obviate the difficulties of the inexperienced practitioner, no encouragement is given to mechanical prescribing, a more serious evil than a slight want of formal accuracy in the construction of a prescription.

Were we to select, we should say the chapter on diabetes, rheumatism, and gout, and that on the circulatory system, show the ripest experience, as well as the clearest statement on difficult points. Throughout the work, while room is left for difference of opinion on matters of detail, the main courses of treatment are so carefully founded on well-established principles, that no essential difference is felt to be possible. This remark applies also to his chapter on 'Food in health and in ill-health', which supplies information on a point that, for success in the treatment of disease, is of quite as much consequence as a knowledge of the therapeutic action of the drugs employed. Some of the additions made in the present edition are of considerable practical importance. Such, for example, are his remarks on 'When not to give iron'—a full account of the results of experience which we have all at some time had impressed on us by some old practitioner whose advice we have asked in a case where we think we *ought* to have succeeded. The section on the functional disturbances of the liver has been filled out and systematised, forming now by no means the least valuable portion of the work. In his section on the reflex consequences of ovarian irritation, Dr. Fothergill gives a contribution to the elucidation of an obscure and difficult subject; and his remarks on the means of acting on the respiratory nerve-centres and on artificial digestion bring us to the border-land where the work of extending therapeutics into territory occupied already by physiology and pathology, is being pushed forward.

Dr. Fothergill's closing chapter on 'The medical man at the bedside', in which he includes an extract by Professor Flint on the professional conduct of physicians, contains much concentrated worldly wisdom; and, if carefully read, digested, and assimilated,

will, in many an emergency, stand the young medical man in good stead.

JAMES ANDERSON, M.D.

Lectures on Digestion: an Introduction to the Clinical Study of the Digestive Organs. By Dr. C. A. EWALD, Lecturer in the Royal University of Berlin. Translated from the German by ROBERT SAUNDY, M.D. Edin. London: Williams and Norgate. 1880.

THESE lectures profess to form 'an introduction to the clinical study of diseases of the digestive organs', the physiology of digestion being looked at more from the physician's than the physiological chemist's standpoint. We must, however, at once say that the practitioner will be disappointed who takes them up in the hope of finding a short work on digestion, indicating the bearing of physiological facts on the diagnosis and treatment of diseases of the digestive organs. The lectures have but in small part this practical tendency, being in the main theoretical and purely physiological, presenting in outline the current opinions regarding the various stages of digestion, with the addition of the latest results of research in these departments.

As a statement of the routine facts of digestion, we cannot praise the work. With all the advantage of an excellent translation, a want of clearness in the statement of leading ideas and of method in the grouping of details makes it by no means easy reading. Many of the latest additions, however, to our knowledge of digestion, are incorporated in the lectures. Such, for example, is Henninger's isolation and analysis of pure peptone, proving it to be a hydrate of albumen; so, also, the author's examination of the gastric juice of fever-patients, showing that its digestive power may be increased by the addition of hydrochloric acid. The pepsin, he finds, is in these cases by no means equally or always deficient, while even a high acidity from abnormal acids may not reach the digestive degree so readily produced by hydrochloric acid. Of special theoretical importance is the analogy, proved by Heidenhain, between the 'glycogen' function of the liver and the production by the pancreas of 'zymogen', a substance 'which, in a watery infusion of the gland or by simple exposure to the air, changes into the active albumen-digesting ferment'.

In the appendix, Dr. Ewald describes his method of washing out the stomach, and also his practical application of the fact that a cold from 32 deg. to 66 deg. Fahr. checks peristaltic action, in the treatment of diarrhoea in children by enemata of cold water. From his examination of artificial digestive preparations, he would recommend, as both good and equally effective, the *Pepsinum germanicum solubile* of Witte of Rostock, and the *Pepsinum pulverisatum* of Simon of Berlin. Pancreatin, given in any form by the mouth, he agrees with Roberts in holding wholly ineffective, from its being itself, like any other albuminoid, digested by the gastric juice.

JAMES ANDERSON, M.D.

On Absorbent and Antiseptic Surgical Dressings. By SAMPSON GAMGEE. London: J. and A. Churchill. 1880.

IN this lecture, two cases of hernia are mentioned in illustration of the advantages of combining an absorbent and antiseptic dressing with perfect rest. The material used is cotton-wool, from which the

oily matter and other impurities have been removed, and which rapidly absorbs moisture. This wool may be impregnated with various medicaments, such as borax, iodine, etc., without losing in any way its absorbent qualities. It is used in the form of pads, which are fastened on by soft absorbent bandages. These pads, though by their elasticity exercising a constant pressure, are not sufficient to enable the surgeon to dispense altogether with the use of drainage-tubes. The advantages claimed are the uniform elastic pressure and the constant removal of discharge.

W. WATSON CHEYNE.

NEW INVENTIONS.

MESSRS. MACKEY, MACKEY, & CO'S NEW PREPARATIONS.

We have received from this firm several specialties and novel preparations of medicines, which we have submitted to trial.

Quinquinine.—The Messrs. Mackey allege that this preparation contains the pure alkaloids of the officinal cinchona bark. It is very like the sulphate of quinine in appearance, but is more soluble, and can be rendered completely so by slight acidulation. We have found it to be a very good substitute for quinine, and as it can be produced at half the present price, will commend itself to the economic practitioner.

Citrate of Iron and Quinine is somewhat similar in appearance to the citrate of quinine and iron, for which it may be economically substituted.

Mistura Bismuthi Composita is a combination of liquor bismuthi with chloroform, hydrocyanic acid and morphia, nux vomica, and aromatics. A somewhat similar compound has been tried by us previously, and we have seen much benefit arise from its use in certain forms of dyspepsia.

Theobromoline (registered), or *Chocolated Cod-liver Oil*.—This preparation is made of pure cod-liver oil, intimately blended with chocolate, whereby the fishy flavour is effectively covered. We have administered this novelty to some patients with very delicate stomachs, and advantageously.

Mistura Cerii Composita.—In this speciality, Messrs. Mackey allege that they have overcome the difficulties in the administration of cerium, on account of its sparing solubility. This is a very elegant preparation, and in the form presented will be found a very valuable remedy in vomiting of pregnancy, and in certain forms of indigestion. The late Sir James Simpson entertained a very high opinion of cerium.

NEW AURAL INSTRUMENTS.

Dr. Samuel Sexton, Aural Surgeon to the New York Eye and Ear Infirmary, requiring for his own use some aural instruments of much lighter make than are usually to be found in the cutler's collection, those figured below were manufactured at his request. Their continued use for some months has satisfied him that the delicacy of their construction has not been at the expense of their usefulness, a fact of no little importance when it is considered that in many operations on the ear (especially for the removal of foreign

bodies from the meatus externus) one is prone to resort to more vigorous efforts than the case requires.

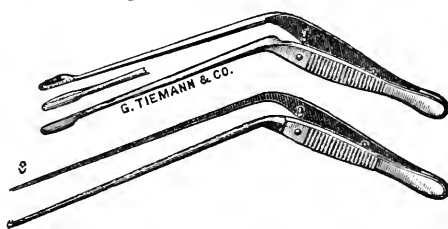


Fig. 1. Ear-Forceps.

The cut (fig. 1) shows two kinds of forceps about one-third smaller than the instruments themselves. These forceps have a very firm bite and close with much precision—points that are obtained from the accurate workmanship, and from the shortening of that part of the instrument held in the fingers when in use. One of them has broad and smooth ends, not liable to injure the meatus or membrana tympani, and is suitable for the removal of foreign bodies; the other has fine points, with sharp teeth set at a right angle, and is of service in removing smaller objects. Being more slender, it can sometimes be inserted so as to grasp an object where other forceps would push it further into the meatus. These forceps have but little or no claim to originality in shape, but they are recommended especially for their light and delicate construction.



Fig. 2. Oroscope.

Dr. Sexton writes that the oroscope (fig. 2) here figured is, so far as it is known to him, new in design. It is especially adapted to aid in explorations of the mouth and throat: for the former, it seems to be all that is desired; and for purposes of tongue-depression, it is usually quite effective in affording a good inspection of the throat, although, for the latter purpose, it is not intended to take the place of the more elaborate instruments in use when the case requires their employment. The buccal cavity can be thoroughly examined by the use of the oroscope; and daily experience teaches him that reflected neuralgia is so frequently a cause of aural disease, that a careful examination of the teeth, etc., is necessary in all cases. Either end of the oroscope can be used in the mouth, thus providing a suitable tongue-depressor for the examination of children, the smaller end being adapted to the smallest mouth. He has observed that children do not object so much to its use as they do to that of spoons or the formidable tongue-depressors in ordinary use. The instrument is inexpensive, easily cleaned and polished; it is less than fifteen centimetres in length, and at the larger extremity two centimetres wide. It is well adapted to a pocket-case.

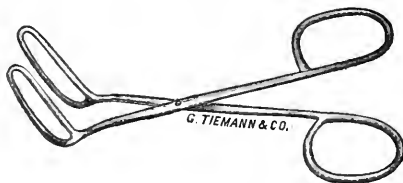


Fig. 3. Nose-Speculum.

This nose-speculum (fig. 3) is very light, and, unlike

many others, is provided with handles through which the thumb and forefinger can be thrust, giving it more precision than when held loosely, and permitting the distention of the nares to the required extent in a gradual manner, the speculum opening as the handles are separated. This natural motion of the fingers, acquired by every one in using scissors, seems to Dr. Sexton a better one than the contrary movement generally required by other instruments.

Specula opening by a spring are painful if by chance they be allowed to expand suddenly, thus alarming children and the more sensitive adults. The instrument is made of steel, is very light, and can be packed away in a small space.



Fig. 4. Powder Insufflator.

The aural powder-insufflator (fig. 4) consists of a vulcanite barrel, which is composed of two parts, one of which is used to scoop up the powder, the other is provided with a small soft rubber bulb for driving it out, and has a valve that prevents the powder from being drawn back into the instrument after its expulsion. When these two portions are fitted together their appearance is as shown in the figure. Dr. Sexton much prefers to puff powders into the external auditory meatus in this way, to blowing them out of an instrument with the mouth. The instrument is about twelve centimètres in length. These instruments are made by George Tiemann and Co., to whom much credit is due for their excellent quality.

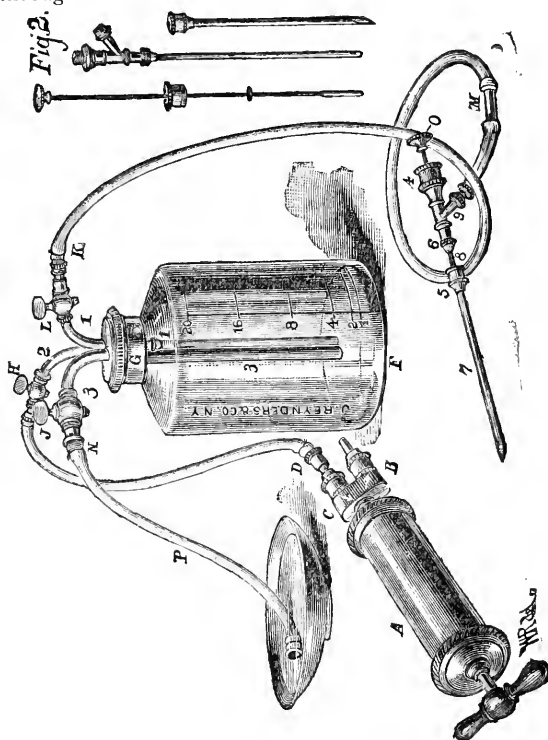
A NEW FORM OF ASPIRATOR AND NEEDLE.

This instrument, which is a modification of Potain's, has been devised by Dr. A. M. Phelps, of Chateaugay, New York State, with a view to facilitate, as much as possible, the operation of aspiration. It is provided with a pump with two ends—one for aspiration, the other for injection—so constructed that either can be done without any preliminary preparation other than attaching it at the proper end, to accomplish what is desired of the two.

As the figure shows, three tubes issue from the top of the bottle, one of which passes only through the cover of the bottle, and the other two to its bottom. The former is to be connected with the pump, and serves as a channel for air to be forced in or out of the bottle. Of the two tubes reaching to the bottom of the bottle, one is for conducting liquids into, the other for conducting them from, the bottle. Each tube is provided with a stopcock. This arrangement forms an instrument which answers its purpose more readily than any other.

Supposing that an aspiration is to be made: the stopcocks, L and J, should be closed, the pump attached to the tubing D, at the end, designated by the backward-pointed arrow, showing that through it the air passes into the pump. The pump, upon being then worked, will produce a vacuum in the receiver, F. When this is achieved, the stopcock H should be closed and L opened, after the needle has been introduced. As soon as the bottle is filled, it can be emptied by attaching the pump at its end, B, closing the stopcock L and opening N. Upon working the

pump, the contents of the bottle will pass out through P. By reversing this proceeding, an injection can be made without disturbing the screw cap, G, of the receiver—the receiver filled through P and emptied through K into the abscess.



It consists of three parts, as seen in Fig. 2. The part 7 is slid over and O slid into the canula 8, the aspirator being attached to the lateral tube 9—7 is the cutting needle furnished with a rubber packing at 5, being shorter than 8; after its introduction 8 is pushed forward through it and the point is protected. The obturator is to dislodge obstruction in the needle during aspiration, and passes through a tight rubber packing at 4A. During aspiration it is drawn out beyond the lateral tube 9. The needle attached to the tube K shows it ready for the operation. In aspirating pus and effusion loaded with flakes of fibrin, Dr. Phelps states that he has not been disappointed in the use of this instrument.

A NEW MICROTOME.

Reynders and Co., of New York, offer to microscopists a microtome of original design, which for cheapness and efficiency is unsurpassed. It is made of a flat piece of steel 12" long by 2" to 2½" wide, with a bevelled cutting-edge 6" long and ½" to ¾" wide. The handle is smooth and rounded off. It is made of the best plate-steel, and is easily kept in order.

THE EUREKA CHEST-EXPANDER.

Messrs. Wood and Drewry, 29 Paternoster Square, E.C., have devised this simple but effective arrangement for keeping the shoulders in their place and preventing the unhealthy and unsightly habit of stooping. The form of the expander fitted with plates is the one most to be recommended in anything like confirmed cases of stooping or for fully-developed girls; the lighter kind being well adapted for children.

MISCELLANY.

THE TREATMENT OF FALLING HAIR.—The best recipe Mr. Startin knows for this condition is given in the *British Medical Journal*, July 1880, p. 157, and is as follows: equal parts of vaseline and castor oil, with five grains of the red oxide of mercury, half a drachm of liquor ammonia fortior, and a few drops of oil of rosemary (to the ounce?).

PERFUMED CARBOLIC ACID.—Perfumed carbolic acid is prepared from carbolic acid 1 part, oil of lemon 3 parts, alcohol of 36 degrees 100 parts, mixed. This mixture, which appears to be quite stable, and has only the odour of lemon, is what has been known as 'Lebon's perfumed carbolic acid', the formula for which has long been a secret, but has now been made known in the *Moniteur Scientifique* of Paris. The antiseptic properties are in no way affected by the oil of lemon.

WE have received the first number of *Science*, a new weekly journal published at 229, Broadway, New York, which aims at filling for America the place held by *Nature* in England. It must, however, materially improve both the quantity and the quality of its contents before it attains that object, if the scientific public of America be as exacting as our own.

THE PREPARATION OF BEEF-TEA AT ST. MARY'S HOSPITAL.—The formula that is given in the *British Medical Journal*, July 1880, p. 157, deserves recording extensively, since the beef-tea thus prepared retains all the nutritive properties of the meat. The beef is cut into small pieces, and placed in the evening in an earthenware vessel, with sufficient cold water to cover the meat; in this it is allowed to remain till the morning. The meat is then taken out and placed in other water, and boiled for several hours. The meat of the previous day is then passed through a mincing machine, and put into the cold liquor in which the meat was steeped the previous night, and upon this the boiling liquor from the day's beef-tea is poured, and the whole well stirred, and it then forms the complete beef-tea.

COMPRESSION OF THE FEET OF CHINESE WOMEN.—An American missionary, Miss Norwood, of Swatow, has described how the size of the foot is reduced in Chinese women. The binding of the feet is not begun till the child has learnt to walk and do various things. The bandages are specially manufactured, and are about 2 in. wide and two yards long for the first year, five yards long for subsequent years. The end of the strip is laid on the inside of the foot at the instep, then carried over the toes, under the foot and round the heel, the toes being thus drawn towards and over the sole, while a bulge is produced on the instep and a deep indentation in the sole. The indentation, it is considered, should measure about an inch and a half from the part of the foot that rests on the ground up to the instep. Successive layers of bandages are used till the strip is all used, and the end is then sewn tightly down. The foot is so squeezed upward that, in walking, only the ball of the great toe touches the ground. Large quantities of powdered alum are used to prevent ulceration and lessen the offensive odour. After a month the foot is put in hot water to soak some time; then the bandage is carefully unwound, much dead cuticle coming off with it. Ulcers and other sores are often found on the foot; frequently, too, a large piece of flesh sloughs off the sole, and one or two toes may even drop off, in which case the woman feels afterwards repaid by having smaller and more delicate feet. Each time the bandage is taken off the foot is kneaded, to make the joints more flexible, and is then bound up again as quickly as possible with a fresh bandage, which is drawn up more tightly. During the first year the pain is so intense that the sufferer can do nothing, and for about two years the foot aches continually, and is the seat of a pain which is like the pricking of sharp needles. With continued rigorous binding, the foot in two years becomes

dead and ceases to ache, and the whole leg, from the knee downward, becomes shrunk, so as to be little more than skin and bone. When once formed, the 'golden lily', as the Chinese lady calls her delicate little foot, can never recover its original shape.

THE COLOUR OF FLOWERS.—At a recent meeting of the Vaudois Society of Natural Sciences, Professor Schnetzler read a paper on the colour of flowers. It has been generally supposed that the various colours observed in plants were due to so many different matters, each colour being a different chemical combination without relation to the others. Now Professor Schnetzler shows by experiments that when the colour of a flower has been isolated, by putting it in spirits of wine, one may, by adding an acid or alkaline substance, obtain all the colours which plants present. Flowers of peony, e.g., give, when placed in alcohol, a red-violet liquid. If some salt of sorrel be added, the liquid becomes pure red; while soda changes it, according to the quantity, into violet, blue, or green. In this latter case, the green liquid appears red by transmitted light, just as does chlorophyll (the green colouring matter of leaves). The sepals of peony, which are green with a red border, become wholly red when put in salt of sorrel. These changes of colour, which can be had at will, may quite well be produced in the plant by the same causes, for in all plants there are always acid or alkaline matters. Further, it is certain that the transformation from green into red, observed in the leaves of many plants in autumn, is due to the action of tannin, which they contain with chlorophyll. Thus, without wishing to affirm it absolutely, Professor Schnetzler supposes *à priori* that there is in plants only one colouring matter—chlorophyll—which, being modified by certain agents, furnishes all the tints which flowers and leaves present. As to white flowers it has been found that their coloration is due to air contained in the cells of the petals. On placing the latter under the receiver of an air-pump, they are seen to lose their colour and become transparent as the air escapes from them.

LOCALISATION OF SPEECH.—M. G. Ballet, describes in *Le Progrès Médical*, 11th September 1880, some observations which were made on hysterical patients, in whom the mesmeric sleep (hypnotism) and catalepsy could be easily induced. The experiments were based upon the facts that patients in the mesmeric sleep retain the power of speaking and writing, while in catalepsy these are abolished; and moreover that the cataleptic state produced by the impression of a bright ray of light on the retina may be limited to one hemisphere by opening only one eye, which is of course the one on the side opposite to the hemisphere affected. Professor R. Lepine of Lyons was the first, in 1878, in M. Charcot's wards, to carry out this experiment, which has been frequently repeated and indefinitely varied. A patient is mesmerised. The breath-sounds, and the characteristic movement of deglutition, indicate the reality of the sleep; the nerves and the muscles are over-excitable, the analgesia is generalised. If the patient is asked to speak, to write, to make gestures, she obeys. The left eye is then opened, that is to say, the right cerebral hemisphere is rendered cataleptic. The phenomena are unchanged, at least so far as language is concerned. Speaking is still possible, and the patient continues to write, to draw, or to gesticulate when told to do so. But let the left eye be closed and the right eye opened, so that the left side of the brain is rendered cataleptic, and at once all communication with the outer world is suppressed. She no longer answers questions; she is ordered in vain to write her name, to make gestures or grimaces. In other experiments the patient is mesmerised and told to count, then suddenly the right eye is opened and the patient stops, to resume at the point where she left off when the eyelid is dropped again. Similar experiments can be made with writing, the patient being arrested suddenly in the middle of a word or even of a letter.

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